

from the excavated edge. Employees may not work in excavations in which water has accumulated, or in excavations in which water is accumulating. Water must either be removed or diverted before employees are allowed to enter and work in excavations. The specific requirements for excavations are found in OSHA's Construction Standards at 29 CFR 1926 Subpart P (Excavations).

5.4.2.4 Struck-By Hazards

A variety of struck-by type hazards exist at the CCCI site. Workers may be struck by heavy equipment or by loads being handled by heavy equipment. Workers may also be struck by materials being removed during demolition activities. Struck-by type hazards often result in head injuries. These hazards will not be present at all times during work at the site. For example, such hazards will not exist during the site assessment phase during drum sampling work.

Struck by hazards will be addressed through the use of hard hats. Hard hats will be required to be worn by all employees involved in the following activities:

- All demolition work
- All work being performed in close proximity to cranes and heavy equipment
- At all times when working in excavations
- Whenever the PSO or OSC determines that such protection is necessary

Struck-by hazards must also be mitigated by creating controlled access zones near the operation of heavy equipment and cranes and demolition work. The swing radius of cranes and heavy equipment must be protected to prevent workers from entering these danger areas and being struck by the equipment counterweight. Areas around demolition work areas must also be protected to prevent employees from entering areas where they could be struck by debris. Caution tape, barricades, and fencing are all acceptable methods of creating protection for such hazards.

5.4.2.5 Confined Space Hazards

Confined space hazards will exist during various phases of work at the CCCI site. Workers may be required to enter into storage tanks to complete cleanings and material removal. Workers may also be required to enter into excavations made in contaminated soils. Hazards associated with confined space entry include the presence of a potentially hazardous atmosphere and other hazards such as the flow of material into the confined space or the inability to self-rescue from a space.

Hazardous atmospheres, or potentially hazardous atmospheres, include the absence of sufficient oxygen (20.9%), the presence of a potentially flammable atmosphere (10% of the LEL), or the presence of a toxic atmosphere (at or above the toxic material's PEL or TLV). Confined space accidents typically involve the presence of hazardous atmospheres and typically result in fatalities of the confined space entrant and rescuers.

Tanks with baffles, or confined spaces with obstructions, that restrict a workers ability to self-rescue are additional hazards that must be considered when planning for appropriate confined space entry. The confined space entry procedures contained in this safety plan must be followed for all entries into potentially hazardous confined spaces.

Confined spaces at the CCCI site where confined space entry precautions must be taken include:

- Entry into empty storage tanks to facilitate sampling, cleaning, or other work
- Entry into excavations containing contaminated soils
- Entry into empty process vessels
- Entry into any pit
- Entries into other confined spaces identified by the PSO or OSC

Contractors whose employees must enter and work in potentially dangerous confined spaces must be adequately trained to handle the responsibilities associated with confined space entry including entry supervisor, attendance, and entrant. Appendix B of this Work Plan contains specific confined space entry procedures that must be followed. OSHA's General Industry Standard at 29 CFR 1910.146 must also be complied with.

5.4.2.6 Cranes, Heavy Equipment, and Rigging Related Hazards:

There will be a variety of heavy equipment at the CCCI site to perform a variety of tasks. The hazards associated with heavy equipment include crushing of employees working in front of or in back of the equipment, and crushing of workers between the counterweight and fixed objects. Hazards associated with cranes include tipping of the crane, loss of the load being craned, contact with power lines, and crushing of workers between the counterweight and fixed objects.

Rigging, including chains, wire rope, and nylon slings, must be rated for the weight being lifted. Hazards associated with rigging include failure due to defects, improper sling lifting angles, improper placement of clips, and failure due to overloading. Additional hazards associated with the improper use of rigging and lifting equipment includes employees working beneath the suspended load subjecting the employee to struck-by or crushing type injuries.

All rigging must be inspected prior to use each day. Wire rope that has been crushed or kinked must be removed from service or destroyed. Nylon slings must be inspected for cuts and excessive wear or for evidence of wear by thread wear indicators. The contractor responsible for rigging shall be responsible for making daily inspections. OSHA Construction Standard at 29 CFR 1926.251 identifies all requirements regarding the use of rigging.

5.4.2.7 Demolition Related Hazards

A variety of structures and buildings will be demolished and removed from the CCCI site. These include a cooling tower, a variety of tanks, and one and two story buildings. The hazards associated with demolition activities include collapse of the structure and hazards associated with the handling of debris. Demolition activities might also expose workers to the hazards associated with lead based paints that may be found on the surfaces of the structures being removed.

There is concern regarding the stability of the structures at the CCCI site due to their age and condition. Prior to entry by any worker, an engineering survey by a competent person must be made of the structure to determine the condition of the framing, floors, walls, and possibility of collapse. All piping that runs through these structures must be purged and cleaned prior to the start of any removal or demolition activity. The PSO shall designate a perimeter zone around the structure being demolished and the contractor will isolate this area with barricades or caution tape. OSHA's Construction Standards at 29 CFR 1926 Subpart T (Demolition) will be used as the reference for all demolition related safety activities.

5.4.2.8 Other Environmental Health Related Hazards

A variety of other environmental health related hazards are likely to exist at the CCCI site. These include:

- Noise levels exceeding 85 dBA
- Exposure to chemicals other than those found at the site (HAZCOM)
- Temperature extremes

Noise levels that exceed a time weighted average of 85 dBA may cause hearing loss in affected workers. A variety of activities may generate noise levels that approach or exceed this level. These activities include the operation of heavy equipment, working near

compressors or generators, and use of some equipment and tools. Excessive noise can also cause worker fatigue that can help contribute to accidents and injuries.

Noise levels calculated as an 8-hour time weighted average may be taken to determine workers exposure to noise during the performance of certain operations. Jobs or tasks determined to expose workers to excessive noise will require implementation of a hearing conservation program. Site workers will be offered appropriate hearing protection when 8-hour noise levels exceed 85 dBA. Site workers will be required to wear appropriate hearing protection when 8-hour noise levels exceed 90 dBA. OSHA's Construction Standards at 29 CFR 1926.52 address the elements of a complete hearing conservation program.

Temperature extremes are a concern at all hazardous waste sites. Work during warmer months will expose employees that wear protective clothing to heat exhaustion. Liquid tight clothing prevents evaporative cooling in workers and can result in rapid dehydration and fatigue. Work during colder months exposes the employee to wind and moisture that can result in hypothermia and frost bite.

Site workers that are required to wear protective clothing will be required to take frequent cooling breaks to prevent the onset of heat exhaustion and heat stroke. Potable water will be provided and employees will be instructed to replace lost fluids. Workers will be instructed to look for signs of fatigue in co-workers and notify a supervisor when signs of heat exhaustion become apparent.

Workers may be exposed to chemical hazards other than the chemical hazards present at the site itself. These chemicals may include fuels, gases, lubricants, neutralizing agents, and construction materials brought onto the site. All workers must be trained in the hazards of these materials and instructed in the location and availability of the site hazard communication program and material safety data sheets (MSDS).

Contractors that bring hazardous chemicals onto the CCCI site will be required to furnish the PSO, or designated PSO, with copies of the applicable MSDS. All contractors at the CCCI site will be informed of the location and availability of MSDS at the site.

5.5 Project Safety Procedures

This section of the Health and Safety Plan includes a general description of the work that will be performed, the general safety rules that apply to the site, and a general description of the safety procedures that will be followed.

5.5.1 General Safety Rules

This section represents general safety rules expected to be followed by all workers at the CCCI site. Other rules may be implemented by the PSO or OSC as necessary to address hazards not yet identified.

- All persons entering the site must register with the on-site security firm.
- All persons granted access to the site will be required to read the site Health and Safety Plan and certify that they understand and will comply with its requirements.
- Persons refusing to read the Health and Safety Plan or sign the certification will be refused access to the site.
- All persons entering the site must comply with the requirements in this Health and Safety Plan and the instructions provided by the PSO, OSC, or representatives of the PRP's.
- All persons that enter or work at the site must report to the PSO, or designated backup PSO, the occurrence of any accident, injury, or illness believed to be related to work at the site.
- All persons that enter or work at the site must be familiar with the location and use of all emergency equipment including fire extinguishers and first aid equipment.

- All persons that enter or work at the site must make reasonable effort to avoid contact with potentially hazardous substances by avoiding walking through puddles, sitting or leaning against drums or contaminated equipment, kneeling on the ground, etc.
- Persons required to wear respiratory protection at the site are required to remove facial hair that interferes with the face to face piece seal of the respirator.
- The consumption of food or beverages by any person is strictly prohibited when inside of the exclusion or contamination reduction zones.
- Smoking, matches, lighters, and any other spark or flame producing activity is strictly prohibited within the exclusion or contamination reduction zones.
- Personnel shall work in pairs when work requires the use of respiratory protective equipment, when entering any excavation, when entering any above ground structure, and when working near or above any pit, lagoon, or liquid containing structure.
- Personnel are expected to use the personal protective equipment identified in this Health and Safety Plan or as instructed by the PSO or OSC when performing certain tasks. Failure to use the prescribed equipment at all times, and as instructed, may result in removal from the site.
- All persons entering the site shall use care to avoid placing monitoring equipment, notebooks, brief cases, and other equipment onto contaminated surfaces.
- All persons that exit the exclusion and contamination reduction zones are required to wash face and hands immediately.
- Protective equipment such as respirators, boots, gloves, non-disposable clothing must be decontaminated or disposed of properly before being removed from the exclusion or contamination reduction zones.

- All persons entering the site must follow the instruction of the PSO, OSC, and representative of the PRP's. Failure to follow instructions provided by these persons may result in removal from the site.
- All persons on site involved in response operations should avoid the use of prescription drugs unless approved by a qualified physician. Working under the influence of alcoholic beverages while involved in response operations is not allowed.

5.5.2 Site Control and Work Zones

Site control and the creation and maintenance of specific work zones are necessary to reduce the possibility of potential exposure to site contaminants. Site control will be established by repairing and/or constructing a perimeter fence around the entire site. A 24-hour security service will also be provided to prevent unauthorized access and to help facilitate the logging in of all workers and visitors.

Work zones are also necessary to minimize or eliminate the transfer of hazardous substances into the "clean" area of the site. Three distinct work zones will be created at the CCCI site to prevent the unintentional transfer of hazardous substances and contamination of unprotected personnel:

Zone 1: Exclusion Zone

The exclusion zone will encompass all known contaminated areas within the site. The greatest potential for inhalation and dermal exposure to known contaminants is contained within the exclusion zone. All site personnel that enter the exclusion zone will be required to wear appropriate levels of protective clothing and respiratory protection specified by the PSO or the OSC.

An entry and exit checkpoint will be established at the periphery of the exclusion zone to regulate the flow of personnel and equipment into and out of this protected area.

Zone 2: Contamination Reduction Zone

The contamination reduction zone is located adjacent to the exclusion zone checkpoint and provides a means of transitioning between contaminated and clean areas of the site. Protective clothing, respiratory protection, tools, equipment, etc. will be cleaned and removed in the contamination reduction zone prior to entering the clean area. All decontamination facilities for personnel, tools, and equipment will be located inside of this contamination reduction zone.

If feasible, the contamination reduction zone, and associated decontamination facilities, will be located in a manner that allows personnel to transfer from contaminated to cleaner stations upwind.

Zone 3: Support Zone

The support zone will be established in a "clean" area at the periphery of the site. The support zone will house on-site office, sanitary, and security facilities. If feasible, the support zone and its facilities will be located in areas upwind from prevailing winds at the site.

The support zone has no significant air, water, or soil contamination. Protective clothing, respirators, tools, and equipment are not allowed in the support zone unless they have been thoroughly decontaminated in the contamination reduction zone.

Establishing Work Zones:

The PSO or OSC will determine the location, and control access to, the three work zones established at the CCCI site. Workers shall never enter into the exclusion zone or contamination reduction zones without the proper protective clothing and respiratory protection as indicated in this plan or as directed by the PSO or OSC.

5.5.3 Task Specific Safety Procedures

This section provides guidance to determine the protection required to complete major tasks at the CCCI site. In many cases, the specific level of protection will be determined by the concentration of hazardous substance in air and the exact methods to be used to complete a certain task. Table 5-2 is provided as a general reference to determine what type of protection will be required for the task being performed.

The following are summaries of the safety procedures that are to be followed during major phases of work planned at the CCCI site. The PSO, designated backup PSO, or OSC may determine that additional safety procedures are to be followed based upon conditions or circumstances present at the time.

5.5.3.1 Securing the Site:

Ordinary safety equipment consisting of hard hat, eye protection, and safety shoes should be adequate for securing the site. Additional protection, such as rubber boots or protective clothing may be necessary if the worker must walk or stand in contaminated water while securing the site.

5.5.3.2 Cleaning the Site:

There is a substantial amount of scrap and debris at the site that should be removed prior to commencement of cleanup activities. This will allow greater flexibility of movement and provide staging areas. Workers involved in removal of this material should wear a hard hat, safety glasses, gloves, and safety shoes while performing this work. The PSO, designated backup PSO, or OSC may determine that additional protection is necessary and may require the use of protective clothing and respiratory protection.

Table 5-2 - Safety Procedures and Protection by Task

	secure site	clean site	inventory drums tanks	sample drums tanks lagoons	soil borings	pump out tank contents	clean cut and scrap tanks	pump out or overpack drums	excavate contaminated soil	install hanging containment barrier	remove all asbestos containing materials	demolish buildings and structures
hard hats	X	X	X	X	X	X	X	X	X	X	X	X
eye/face protection	X	X	X	X	X	X	X	X	X	X	X	X
safety shoes	X	X	X	X	X	X	X	X	X	X	X	X
hearing protection		AN			AN	AN	AN	AN	X	A N	AN	X
protective clothing		PSO	PSO	X	PSO	X	X	X	PSO	PSO	X	PSO
respiratory protection		PSO	PSO	X	PSO	X	X	X	PSO	PSO	X	PSO
decon		PSO	PSO	X	PSO	X	X	X	PSO	PSO	X	PSO
worker air monitoring		PSO	PSO	X	PSO	X	X	X	PSO	X	X	PSO
perimeter air monitoring		PSO		PSO	PSO	PSO	PSO	PSO	PSO	X	X	PSO
confined space entry				PSO		PSO	X		PSO		PSO	
excavation procedures							PSO		X	X		
fall protection				AN			AN		AN		AN	PSO
electrical safety					X		AN		X	X	AN	X
engineering survey												X
barricade work area							X		AN		X	X
crane signals		AN		AN			X		AN	AN		X
rigging inspections		AN		AN			X			AN		X
chemical segregation						X		X	X			

AN - As needed PSO - To be determined by PSO or OSC X - Required during work activity

5.5.3.3 Inventory Drums and Tanks:

The simple inventorying of drums and tanks should not expose workers to any great hazards provided the worker does not touch or handle the drums or tanks. Hard hat, safety glasses, safety shoes, and gloves are to be used when taking inventories of drums and tanks. The PSO, designated backup PSO, or OSC may determine that additional protection is necessary.

5.5.3.4 Sampling Drums, Tanks, and Lagoons:

The sampling of drums, tanks, and lagoons must be performed in personal protective equipment. The level of protection will be determined by the PSO, designated backup PSO, or OSC. Sampling of lagoons may require that workers be suspended by crane or other hoisting device. These workers must wear fall protection during such procedures.

5.5.3.5 Pump Out and Clean Scrap Tanks:

The PSO, designated backup PSO, or OSC will determine the level of protection necessary for pumping out tank contents. Level B protection may be utilized for workers involved in pumping out the contents of the large cyanide tank provided workers are protected by an alarmed personal hydrogen cyanide gas detector. Cleaning of tanks will require use of the confined space entry procedure. Levels of protection for tank cleaning will be determined by the PSO, designated backup PSO, or OSC.

5.5.3.6 Handling Drums:

Various drums will need to be pumped out or overpacked. Level B protection may be required. Decisions regarding the level of protection will be based upon evaluation of sample results and will be determined by the PSO, designated backup PSO, or OSC. Air monitoring will be performed to ensure adequate levels of protective equipment.

5.5.3.7 Excavate Contaminate Soil:

Soils will likely need to be excavated. Levels of protection will be determined by results of soil sampling and will be determined by the PSO, designated backup PSO, or OSC. Proper excavation procedures must be followed and confined space entry procedures must be followed for workers that must enter the excavated areas.

5.5.4 Air Monitoring

A comprehensive air monitoring program will be implemented at the CCCI site. Monitoring will consist of initial screening and monitoring, perimeter monitoring, worker exposure monitoring, and atmospheric monitoring for all confined space entry situations. Specifics concerning the air monitoring program, or additional air monitoring, will be determined by the PSO, alternate backup PSO, or OSC as operations and exposures dictate.

5.5.4.1 Daily Air Monitoring

Daily air monitoring will be conducted frequently throughout each work day when site activities are likely to cause the release or dispersion of hazardous chemicals into the air. Daily air monitoring will be conducted using an HNU photoionization detector at several downwind areas at the perimeter of the site and in areas where work is being performed that is likely to cause chemicals to become airborne. Additional daily monitoring using the photoionization detector will be determined by the PSO, alternate backup PSO, or OSC.

5.5.4.2 Perimeter Air Monitoring

Continuous perimeter air monitoring for specific compounds will be determined by the operation being performed, the relative toxicity of the chemical or chemicals involved in the operation, and the probability of the chemical becoming airborne during the operation. This will be determined by the PSO, alternate backup PSO, or the

OSC. Placement of continuous air monitoring equipment will be at the perimeter of the site in a predominantly downwind location or as directed by the PSO or OSC.

5.5.4.3 Worker Exposure Monitoring

Worker exposure monitoring will be conducted by collecting representative full shift air samples for the hazardous chemicals identified as present in the work being performed. In general, worker exposure monitoring will be conducted at the commencement of each major phase of work described in the work plan and shall continue until representative samples have been obtained.

All workers in those tasks for which representative exposure monitoring was conducted shall be notified in writing of the results of the exposure monitoring and the actions, if any, to reduce their exposure or increase/decrease levels of personal protective equipment being used.

5.5.4.4 Documentation

Results of all air monitoring will be documented and maintained by the PSO or alternate backup PSO. Documentation shall be kept on site at all times. Workers requesting air monitoring information must be shown results or provided with a copy of the results representative of their previous or actual exposure.

5.6 Decontamination Procedures

Decontamination must be conducted to prevent the contamination of personnel, facilities, and equipment located outside of the contamination reduction and exclusion zones. Decontamination can also greatly extend the useful life of protective clothing and respiratory protective equipment and other tools and equipment used at the site.

5.6.1 Equipment Decontamination

Equipment and sampling tools will be decontaminated before being transferred into the support zone. Workers that perform equipment decontamination will wear protective clothing, respiratory protection, and eye and face protection as determined by the PSO or OSC.

Corrosive substances can be splashed into eyes or onto skin during the decontamination process. Chemical splash goggles and/or full face shields may be required during decontamination of tools or equipment contaminated with acids. See list of chemicals in table 5-1.

The following methods should be used to facilitate decontamination of tools and equipment:

- Pressure wash all surfaces of the tool or equipment
- Wash all surfaces with a dilute detergent soap solution
- Perform a triple rinse of all surfaces with potable water
- All electronic and sensitive monitoring equipment should be protected from surface contamination by covering with plastic or plastic bags.
- Exposed surfaces of sensitive monitoring equipment will be cleaned with wet cloths and alcohol wipes.
- Contaminated rags, protective plastic, contaminated rinsate, etc. will be placed in appropriate containers for proper disposal according to local, state, and federal requirements.

5.6.2 Personnel Decontamination

Personnel decontamination is critical to prevent the transfer of hazardous substances to the support zone. Effective decontamination is also necessary to prevent a secondary exposure to workers or others when removing protective clothing and respiratory protection.

Decontamination that is not performed, or performed ineffectively, can also result in workers bringing hazardous substances into their homes and exposing their family members. The PSO and OSC will ensure that effective decontamination occurs.

Where practicable, and safe, disposable protective clothing will be used. When disposable protective clothing is used, it must be removed in a manner that prevents the spread of contamination to other clothing or areas of the body. All disposable clothing, gloves, foot coverings, etc. must be removed by carefully turning them inside out as they are removed.

Disposable protective clothing contaminated with dusts containing hazardous substances, such as PCB's, should first be vacuumed with a HEPA filter vacuum or decontaminated by a water rinse, before workers remove their protective clothing. This will help prevent the migration of dust from the outside of the protective clothing onto the workers street clothing as it is being removed.

Site workers that assist others in decontamination activities must wear personal protective equipment to prevent a secondary exposure to hazardous substances during the decontamination process. Such protective equipment may include protective clothing, eye and face protection, and respiratory protection. The PSO or OSC shall determine what personal protective equipment is required for those that assist during decontamination.

5.7 Personal Protective Equipment

The type of personal protective equipment to be used at the CCCI site will depend upon the nature and level of exposure encountered during work performed within the exclusion and contamination reduction zones at the site.

Certain activities conducted within the exclusion zone will not require workers to disturb or come into direct contact with the hazardous substances identified at the site. An example of such an activity is the inventorying of various drums at the site. This process should not involve the touching or disturbance of materials contained within the drums. The PSO or OSC will ultimately determine the personal protective equipment required during the performance of tasks at the site. This determination shall be based upon the possibility of contact and the concentration of airborne contaminants present.

5.7.1 Respiratory Protection:

5.7.1.1 General:

Respiratory protection will be an integral part of the personal protective equipment program at the CCCI site. Respiratory protection provides protection only when all elements of an effective respiratory protection program have been implemented. An effective respiratory protection program includes:

- Proper selection of the respirator to be used
- Worker medical evaluation
- Extensive worker training in the limitations and use of the respirator
- Periodic fit testing in the respirator
- Absence of facial hair in the sealing area of the respirator
- Proper cleaning and sanitization of the respirator
- Periodic inspection of the respirator and its components
- Periodic audit of the respiratory protection program

All workers and contractors at the CCCI site will be required to comply with the respiratory protection program in effect at the site. Table 5-3 describes the required respiratory type and chemical and warning properties for various chemicals of concern. Respiratory protection programs must comply with OSHA's respiratory protection standard at 29 CFR 1910.134. A copy of the site respiratory protection program is contained in Appendix C of this Work Plan.

5.7.1.2 Level C Respiratory Protection

Certain tasks will require the use of respiratory protection at the CCCI site. Levels of respiratory protection may range from full-face air purifying respiratory protection to supplied air respirators with escape bottles. Generally, full-face air purifying respirators may be used to protect against airborne concentrations of hazardous substances with protection factors ranging from 50x up to 100x the permissible

Table 5-3 - Selection of Respiratory Protection by Chemical & Warning Properties

Chemical	Respiratory Protection by Type			Odor Threshold	Warning Properties
	supplied air/escape	full-face air purifying ($< 50\times$ PEL/TLV)	cartridge type		
acetone		X	OV	3.6-653 PPM	questionable warning
arsenic		X	P-100	n/a	mechanical filter-warning n/a
asbestos		X	P-100	n/a	mechanical filter-warning n/a
barium		X	P-100	n/a	mechanical filter-warning n/a
benzene		X	OV	34-119 PPM	poor warning properties
cadmium		X	P-100	n/a	mechanical filter-warning n/a
chromium compounds		X	P-100	n/a	mechanical filter-warning n/a
cyanide	X	n/a	n/a	n/a	poor warning as HCN
1,2-dichlorobenzene		X	OV	.7 PPM	no warning information
1,1-dichloroethane	X	n/a	n/a	49-1359 PPM	questionable warning
dichloromethane	X	n/a	n/a	160 PPM	poor warning properties
hydrochloric acid		X	AG	.25-10.06 PPM	irritation provides warning
isophorone		X	OV	.19 PPM	no warning information
lead		X	P-100	n/a	mechanical filter-warning n/a
mercury		X	Hg/P-100	n/a	mechanical filter-warning n/a
2-methylnaphthalene		X	OV	n/d	no warning information
naphthalene		X	OV	.038 PPM	good warning properties
PCB's - various		X	OV/P-100	n/d	no warning information
selenium		X	P-100	n/a	mechanical filter-warning n/a
silver		X	P-100	n/a	mechanical filter-warning n/a
sulfuric acid		X	AG/P-100	.15 PPM	mechanical filter-warning n/a
tetrachloroethene	X	n/a	n/a	47 PPM	no warning information
toluene		X	OV	.16-37 PPM	questionable warning
1,1,1-trichloroethane	X	n/a	n/a	390 PPM	questionable warning
trichloroethene	X	n/a	n/a	82 PPM	poor warning properties

exposure limit (PEL), recommended exposure limit (REL), or threshold limit value (TLV). Certain substances, such as lead, restrict the use of full-face air purifying respirators to a concentration not exceeding 50x the PEL.

Level C respiratory protection may not be used to protect against certain hazardous substances, regardless of the concentration in air. Air purifying respirators may not be used for protection against any concentration of HCN or dichloromethane. Therefore, tasks that might expose site workers to concentrations of HCN or dichloromethane will require level B respiratory protection consisting of a full-face air supplied respirator with escape air.

5.7.1.3 Level B Respiratory Protection:

Certain tasks will require the use of level B respiratory protection at the site. Examples of such activities may include entry into tanks containing IDLH atmospheres of hazardous substances, exposure to unknown concentrations of extremely hazardous substances during the performance of work, and for exposures to any concentration of dichloromethane or HCN.

Where probable exposures to unknown airborne concentrations of the dusts, mists, vapor, fumes of hazardous substances exist, and until exposure monitoring data provides known concentrations of such substances during certain work activities, the use of full-face, positive pressure or pressure demand, supplied air respiratory protection will be used. The PSO or OSC will determine when such equipment is to be used during the performance of such work.

5.7.2 Protective Clothing:

A variety of protective clothing may be required when working at the CCCI site. The following protective equipment will be required to be worn at all times after entering the site:

- Hard hat
- Safety glasses
- Safety shoes or boots

The equipment above is not required to be worn in temporary offices or trailers. Equipment such as safety glasses will not be required to be worn when equipment such as full-face respiratory protective equipment is being used.

5.7.2.1 Chemical Protective Clothing:

In addition to the above personal protective equipment, chemical protective clothing will be required to be worn during the performance of certain tasks. The PSO or the OSC has the authority to determine the level of chemical protective clothing required to be used during certain operations. The level of protection required will be based upon the potential for contact with certain hazardous substances during the performance of work, the nature and danger of the hazardous substance, and potential for the substance gas, liquid, or vapor to be absorbed through the skin. Chemical protective clothing requirements for chemicals of concern are outlined in Table 5-4.

In general, site assessment activity that does not expose workers to dermal or airborne dermal absorption hazards will not require the use of chemical protective clothing.

5.7.2.1.1 Level D Protective Clothing:

If workers are required to handle, touch, or come into close proximity with drums, tanks, or other site contamination, a minimum of level D protective clothing will be required. Variants of protective clothing might include the requirement to wear chemical resistant boots and gloves. Requirements for protective clothing will be determined by the PSO or the OSC.

Table 5-4 - Chemical Protective Clothing by Chemical

Chemical	Coverall Materials			Glove Materials					Chemical Boots
	Blue Max	Saranex Tyvek	Tyvek	Silver Shield	Viton	Nitrile	Butyl	Neoprene	
acetone	H	M	L				HML		
arsenic			LMH					HML	
asbestos			LMH					HML	
barium			LMH					HML	
benzene	H	M	L	HML					
cadmium			LMH					HML	
chromium compounds	HM*		L					HML	
cyanide**	HM		L	HML					
1,2-dichlorobenzene	H	M	L		HML				
1,1-dichloroethane	H	M	L		HML				
dichloromethane	HM		L	HML					
hydrochloric acid	HM	M	L					HML	
isophorone	HM		L					HML	
lead			HML					HML	
mercury			HML					HML	
2-methylnapthalene	H	M	L			HML			
naphthalene	H	M	L			HML			
PCB's - various	H	M	L***					HML	
selenium			HML					HML	
silver			HML					HML	
sulfuric acid	H	M	L					HML	
tetrachloroethene	HM		L		HML				
toluene		HM	L		HML				
1,1,1-trichloroethane		HM	L		HML				
trichloroethene	HM		L		HML				

L = Low or virtually no probability of splash or contact

M= Moderate probability of splash or contact

H= High probability of splash or contact

* For exposure to chromic acid

** Potential exposure to HCN and ONLY where HCN detection is provided

*** For exposure to PCB particulate

**** Silver shield used as an outside glove

5.7.2.1.2 Level B & C Protective Clothing:

The handling of strong concentrations of acids will require at least level B & C protection to prevent any possible contact with skin and eyes. This level of protective clothing will be required during the sampling, transfer, drum handling, etc. of acids or as directed by the PSO or OSC. Level B & C protective clothing will also be required to be used to protect against hazardous substances that are easily absorbed through the skin.

Level B protective clothing will be required during the handling of cyanide where the formation of HCN is possible. When Level B protective clothing is used for this purpose, each worker must also be protected by an alarmed personal HCN gas detector to allow adequate warning to safely evacuate the area.

5.8 Emergency Procedures & Accident Reporting:

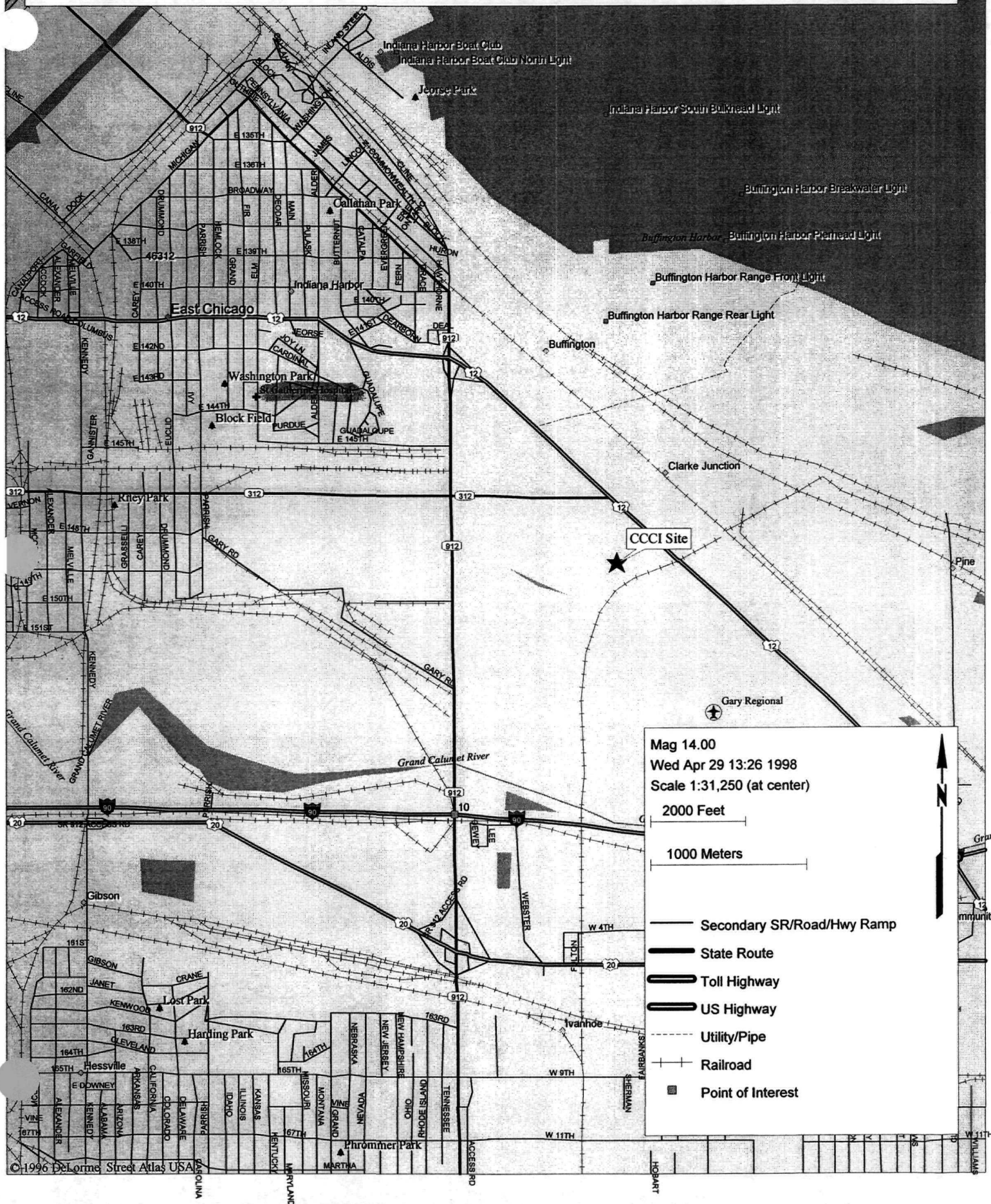
The purpose of the Health and Safety Plan is to prevent the occurrence of accidents, injuries, or events that threaten the health and safety of site workers and/or the general public. In the event an injury or incident occurs, the following plan must be implemented to minimize the effect of the emergency to workers at the site or to the general public.

5.8.1 Injuries:

5.8.1.1 Life Threatening Injuries:

The highest priority in the event an injury occurs to a worker at the site is to provide immediate first aid or medical attention to the injured worker. The level of care required for the injured worker may range from simple first aid to emergency medical emergencies requiring emergency transport to a hospital. (The evacuation route to the closest hospital is depicted in Figure 5-1.)

Figure 5-1 - Evacuation Route to Hospital



Personnel trained in CPR and first aid should be available at the site. Depending on the severity of the injury, it may be necessary to provide life saving assistance such as rescue breathing and/or cardio pulmonary resuscitation.

Such personnel must assess the nature of the illness or injury and determine if it is safe to move the employee. In general, unconscious persons should not be moved, unless they are in an area of immediate danger, such as a fire or chemical spill. If the person is in an area of immediate danger, rescuers should determine if it is safe to enter the area to move the employee. Many emergencies result in injuries to, or fatalities of, rescuers. Never enter an area of immediate danger unprotected for the purpose of rescuing another person.

Workers that are unconscious, or otherwise seriously injured, will be taken immediately to the support zone. Any decontamination that may be necessary will be performed in the support zone in addition to emergency first aid procedures and preparation for transportation to a medical facility.

5.8.1.2 Chemical Injuries:

Injuries involving hazardous chemicals require immediate first aid assistance. The following procedures will be followed in the event contact occurs with a hazardous chemical:

Eye Contact: Hazardous chemicals that have been splashed or contacted a workers eye must be irrigated with potable water or eye wash solution for a minimum of 15 minutes prior to, or during, transportation to a medical facility. When irrigating, be sure to turn the workers head toward the side with the injured eye to prevent the eye irrigation water from entering the uninjured eye.

Skin Contact: Hazardous chemicals that have been splashed onto or contacted a workers skin must be flushed with water for a minimum of 15 minutes. Injuries that result in immediate and severe tissue damage should not be treated or irrigated with anything other than tepid potable water. Emergency medical attention must be provided for injuries resulting in severe tissue damage or persistent irritation or pain from contact with the substance.

Inhalation: A worker that is overcome by the inhalation of dusts, mists, vapors, gases, or fumes from hazardous chemicals shall be moved to the support zone, ONLY IF SAFE TO DO SO BY PROTECTED RESCUERS. Once moved to the support zone, the injured worker will be allowed to breathe fresh air. Rescue breathing shall be administered if the worker's breathing has stopped, but rescuers must avoid inhaling the victim's exhaled air. Emergency medical attention must be obtained immediately for all inhalation related injuries.

Ingestion: If a site worker accidentally ingests a hazardous substance, the worker shall be taken to the support zone immediately. The nearest poison control center shall be contacted immediately to determine if any immediate actions can be taken to neutralize or reject the ingested substance. The worker must then be transported to the nearest hospital for treatment.

5.8.1.3 Non-Life Threatening Injuries:

Less serious injuries or illnesses may be able to be treated by trained first aid personnel on site. If there is any question as to the severity, or appropriate treatment for, an injured worker, that worker shall be transported immediately to the nearest medical treatment facility or hospital.

5.8.2 Reporting Accidents and Injuries:

The PSO, designated backup PSO, or OSC must be notified of ALL accidents, injuries, and incidents that occur at the CCCI site. Notification must occur verbally at the time of the incident and followed up with a written report prepared by the contractor that employs the injured worker. The emphasis of all accident investigation and reporting must be the direct and indirect causes of the event and, more importantly, the actions that will be taken to prevent the recurrence of a similar event in the future.

Unless directed otherwise by the PSO, designated backup PSO, or the OSC, complete, written accident reports must be submitted to the PSO within 24 hours following the accident or injury. Contractors assume all responsibility for the reporting of injuries involving their employees to the appropriate insurance company and/or state industrial accident commission.

The procedure and forms contained in Appendix D of this Health and Safety Plan shall be used to document accidents and injuries. Contractors are responsible for making entries on the OSHA 200 form and for making reports to the appropriate state industrial accident board.

5.8.3 Fires:

Workers that have been trained in the use of portable fire extinguishers shall use dry chemical portable fire extinguishers to extinguish incipient stage fires only. Workers that cannot extinguish incipient stage fires with portable fire extinguishers must evacuate the area immediately and notify the PSO, designated backup PSO, or OSC.

The Gary, Indiana Fire Department must be contacted immediately when a fire occurs that cannot be controlled with portable fire extinguishers. At their direction, soil or other inert materials may be used to cover and suffocate the fire.

5.8.4 Evacuation Plan:

The products of combustion produced by fires are often much more hazardous than the materials themselves. The PSO, designated backup PSO, or OSC may order the evacuation of the site in the event a fire produces large quantities of potentially toxic gases. The PSO, designated backup PSO, or OSC should order evacuation off site to areas located upwind of the smoke and gas cloud migration.

Should the PSO, designated backup PSO, or OSC determine that evacuation of the site is necessary as a result of a fire, or other emergency at the site, the evacuation shall be annunciated by sounding three long blasts with an air horn. Site workers will use the closest evacuation route to the outside of the site. The evacuation route selected should be located in an upwind location whenever possible.

Available vehicles located in the support zone, or off-site, can be used to facilitate the evacuation of site workers and others. The PSO, or his alternate, shall be responsible for coordinating the accounting of all site personnel. The visitor log shall be used as the basis for determining those that have been safely evacuated. The responding Gary Fire Department will be notified upon arrival of any persons not accounted for and a general description of where they were last seen working.

The PSO, designated backup PSO, or OSC must ensure that the Gary Fire Department and Police Department are informed of the identity and hazards of the substances involved in the fire. The ultimate evacuation of locations nearby is the responsibility of the Police and Fire Departments.

5.9 Auditing the Effectiveness of the Site Health and Safety Plan:

The effectiveness of the CCCI Site Health and Safety Plan depends entirely upon the cooperation of all personnel involved in the project. The vast majority of accidents and injuries result from the actions, or lack of actions, of an individual. Safe work practices are detailed in this Plan. Site workers must be familiar with, and adhere to, these requirements.

The PSO has overall responsibility for the health and safety of all persons working at, or visiting, the CCCI site. It is the responsibility of all persons that work at this site to notify the PSO of unprotected or unidentified hazards or violations of safety requirements that they might observe. Contractors are responsible for identifying and correcting hazards or violations committed by their employees and for disciplining when necessary.

The PSO, or the designated backup PSO, is responsible for conducting informal, daily safety audits at the site. The purpose of these audits is to determine compliance with the requirements of this health and safety plan and commonly accepted safety practices during the performance of work at the site. Hazards that are noted during such audits, or serious safety violations that are observed, should be noted in a designated field logbook and corrected or scheduled for correction.

At least once during each week of field activities and for the duration of the project, the PSO or designated backup PSO shall make a formal, documented safety audit of work activity at the site. Copies of this safety audit shall be kept on file on site.

The PSO or designated backup PSO shall also perform safety audits upon commencement of certain major activities scheduled to occur. Examples of the need for such audits include overpacking of leaking drums, demolition of structures, abatement of asbestos, transfer of chemicals from tanks into tank trucks, entry by employees into excavations, etc.

The CCCI Site Health and Safety Plan is designed to be dynamic. The requirements of the plan may change according to changes in the Work Plan or as directed by the PSO, designated backup PSO, or OSC. Methods and personal protective equipment used to protect workers during the performance of certain tasks may change depending upon the concentrations of contaminants present during the performance of such work.

The PSO or designated backup PSO must inform all affected workers of the development of new procedures or modifications to this Health and Safety Plan. All communications regarding health and safety at the site must be documented. A form to facilitate such communication is contained in Appendix D of this Work Plan.

6.0 REMEDIATION ACTIVITIES

Based on the results obtained from the site investigation (Section 2.2) and in response to additional requirements in the Order, various site cleanup and waste removal activities will be performed. For purposes of this Work Plan, the entire site will be deemed as the operable unit for remediation. The activities to be performed are discussed in the following sections.

6.1 Decontamination Pad

Since hazardous materials will be encountered during the sampling and removal activities, decontamination of equipment coming in contact with the materials will be required. An assessment of the integrity of the former decontamination (decon) pad will be performed to evaluate the viability for its use during the implementation of this Work Plan. Modifications to or upgrading of the decon pad, if required, will be made prior to performing any sampling or removal activity. If for any reason the location of the existing decon pad is not desirable, a new decon area will be designated as directed by the OSC.

6.2 Buried Drums and Tanks

Any drums or tanks detected during the geophysical and magnetometer studies will be excavated. Any drum or tank found to be leaking will be containerized to mitigate the release to the subsurface environment. Once the contents or material released has been characterized and properly transferred to a suitable container for disposal, the drums and/or tanks will be cleaned to render them non-hazardous. The final disposition for the cleaned drums and/or tanks is described in Section 6.8.

The waste materials removed from the drums and/or tanks will be subjected to the hazcatting procedures outlined in Section 3.3.3 and will be disposed of at either a non-hazardous waste facility or at an EPA-approved RCRA facility that is in compliance with the CERCLA off-site rule.

Any contaminated soils encountered during the excavation activities will be disposed of in accordance with the procedures described in Section 6.5.

6.3 Non-Hazardous Materials

If the residual liquid from any tank, drum, pit, basin or decontamination procedure is determined by sampling to be uncontaminated, it will be directly discharged to the ground surface. If it is determined to be contaminated by non-hazardous constituents, it will either be disposed of by either directly discharging it to the City of Gary Sanitary District, after obtaining permission, or by transporting it in bulk to an off-site EPA-approved non-hazardous waste treatment facility. Documentation of this removal will be included in the Final Report (See Section 7.0). Non-hazardous solid materials will either be left in-place or leveled to grade.

All uncontaminated aboveground structures will be demolished and the resulting materials that are classified as non-hazardous debris, along with all general refuse generated, will be disposed of at a solid waste management facility.

6.4 Hazardous Materials

All materials contained in storage tanks, drums, pits, basins, and labpacks or resulting from decontamination procedures that are determined to be hazardous will be combined into compatible hazardous waste groups. A composite sample of each compatible material group will be obtained and submitted either to the selected laboratory or the potential disposal site for waste profile analysis and approval. The selected disposal facility will be an EPA-approved RCRA facility that is in compliance with the CERCLA off-site rule. Once disposal approval has been secured, the hazardous materials will be loaded and transported off-site. Documentation of this removal will be included in the Final Report.

However, if the hazardous material can be treated on-site to render it non-hazardous such as through the use of carbon filtration, it will either be managed as a non-hazardous waste (See Section 6.3) or left on-site as directed by the OSC.

6.5 Subsurface Soils

Subsurface soils encountered during the removal of any buried drum or tank, or as a result of the subsurface characterization study, which are determined to be RCRA contaminated based on field observations or analytical sampling will be excavated and

staged in a designated area of the site on and under a protective plastic cover to await disposal. The stockpile will be sampled, profiled, and upon acceptance, disposed of at an EPA-approved RCRA facility that is in compliance with the CERCLA off-site rule.

If PCB contaminated soil (greater than 50 ppm) is encountered during the removal activities, in the amount of 500 cubic yards or less, that soil will be excavated, loaded, and removed off-site. Disposal of this waste will be at an EPA-approved TSCA facility that is in compliance with the CERCLA off-site rule.

Documentation of these removals will be included in the Final Report.

6.6 Lagoon Sludge

Based on the results of the investigation activities performed on the pie basin, acid sludge, and off-site lagoons, the sludge in each lagoon will be determined to be either adequately stabilized or in need of additional stabilization.

If additional stabilization is required in any area of the three (3) lagoons, an additional neutralization material, such as concrete or lime, will be added to that area until it is successfully demonstrated by analytical sampling that it is stabilized. Once stabilization is complete in all lagoons, the sludge from all off-site lagoons will be removed and transferred to one (1) or both of the lagoon areas located on-site. Since the material in the off-site lagoon areas contains iron oxide that has a characteristic orange/red color, removal of the material from the off-site lagoon will be completed based on visual observations. When all stabilized sludge has been placed on the CCCI site property, it will be covered with a 2-foot thick clay cap which will be graded and sloped to divert stormwater from the capped surface.

6.7 ACM Removal

Based on the results of the ACM investigation, all materials verified to be ACM will be removed by a licensed contractor after proper notification to IDEM and disposed of at an approved disposal facility in accordance with all applicable regulations. The removal of all ACM will be performed prior to the dismantlement or demolition of any aboveground structure, building or container.

Documentation of any removal will be included in the Final Report.

6.8 Scrap Metal

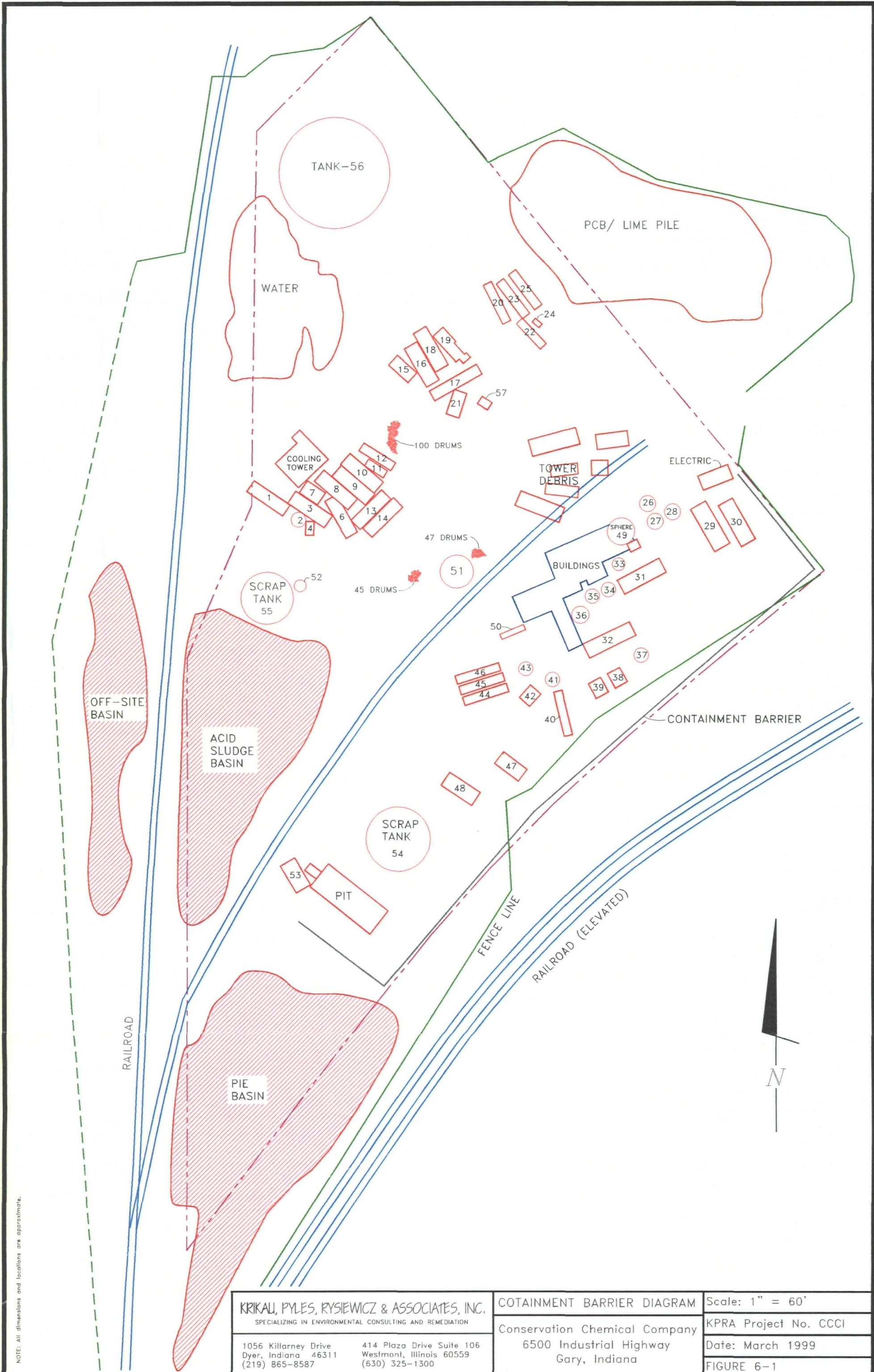
Once all tanks and drums have been successfully decontaminated, they, along with other scrap metal at the site, will be cut into manageable pieces on-site and sold to a scrap metal recycler. The proceeds from this will be used by the PRP's to pay a portion of the costs incurred by performing the activities in this Work Plan.

6.9 Containment Barrier

A containment barrier will be installed along the southwest border of the site after a geophysical investigation to identify potential subsurface impediments has been completed. This containment barrier is to extend from the ground surface to the shallow aquifer to contain the layer of floating petroleum. Figure 6-1 illustrates the location of this containment barrier. The barrier will be constructed utilizing an impermeable material such as a high density polyethylene (HDPE) geomembrane or steel sheet piling depending on the subsurface impediments encountered. Either barrier will be installed utilizing a trenchless, vibratory technique. However, if site specific conditions prohibit this type of installation, an investigation to determine an alternative type of barrier that is technically feasible, economically reasonable and acceptable to both the PRP's and the OSC, will be performed. Once the suitable alternative installation is determined, it will be constructed as required.

6.10 Monitoring Wells

All existing monitoring wells that have been identified and located on the CCCI site will be closed in accordance with applicable methods prescribed and defined by the Indiana Department of Health and consistent with IDEM's regulations (310 IAC 16-10-2). Monitoring well closure will include plugging with an impervious grouting material, removal of aboveground monitoring well appurtenances, plotting of the location of the monitoring well on a scaled site map, and the completion and filing of Indiana State Form No. 35680 to document the proper closure of each monitoring well. These well closure activities shall be performed by a licensed drilling contractor and supervised by an Indiana licensed professional geologist. All waste material generated during this closure activity shall be removed from the site and properly disposed.



NOTE: All dimensions and locations are approximate.

KRIKAL, PYLES, RYSIEWICZ & ASSOCIATES, INC.
SPECIALIZING IN ENVIRONMENTAL CONSULTING AND REMEDIATION

1056 Killarney Drive
Dyer, Indiana 46311
(219) 865-8587

414 Plaza Drive Suite 106
Westmont, Illinois 60559
(630) 325-1300

CONTAINMENT BARRIER DIAGRAM

Conservation Chemical Company
6500 Industrial Highway
Gary, Indiana

Scale: 1" = 60'

KPRA Project No. CCCI

Date: March 1999

FIGURE 6-1

6.11 Backfilling

All excavated areas resulting from the removal of contaminated soils and buried drums and/or tanks will be backfilled to pre-excavation grades with clean fill, such as crushed concrete, bricks, cinder blocks, imported aggregate materials, or uncontaminated soil.

All pits and basins on-site will also be filled with clean fill such as crushed concrete, bricks, cinder blocks, imported aggregate materials or uncontaminated soil.

6.12 Project Demobilization

6.12.1 Decontamination Pad

Upon the completion of the above scope of work, exclusive of the post-closure care effort described in Section 9.0, the decontamination pad will be decommissioned. The decommissioning will entail the pressure washing of the concrete surface and complete evacuation of the rinsate collection sump. The physical pad will be removed and utilized as a beneficial on-site fill.

6.12.2 Other Activities

The site field office trailer will be returned to the vendor in a clean condition. The potable water services and sanitary facilities will be removed from the site. All electrical and telephone connections will be terminated in a manner consistent with utility protocols. All residual trash and debris will be removed from the site and disposed of as a solid waste. The access gates will be locked and the site gate keys will remain in the custody of the OSC and the designated representatives of the PRP's.

7.0 PROJECT REPORTS

7.1 Monthly Reports

A monthly written progress report will be submitted to EPA concerning actions undertaken pursuant to the Order, beginning 30 calendar days after the date of EPA's approval of the Work Plan, until termination of the Order, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next report period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

7.2 Final Report

Within 60 calendar days after completion of all removal actions required under the Order, the PRP's shall submit for EPA review a Final Report summarizing the actions taken to comply with the Order. The Final Report shall conform to the requirements set forth in Section 300.165 of the NCP, 40 C.F.R. § 300.165. The Final Report shall also include a good faith estimate of total costs incurred in complying with the Order, a listing of quantities and types of materials removed off-site or handled on-site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits).

The Final Report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

7.3 Submission of Reports

All reports required by this Work Plan will be submitted by certified or express mail and will be directed to:

Mr. Steven J. Faryan
On-Scene Emergency Response Branch Coordinator
EPA, Region 5
77 West Jackson Boulevard
HSE2-5J
Chicago, Illinois 60604-3590

A copy of all submissions will also be sent to:

Ms. Constandina Dalianis
Assistant Regional Counsel
EPA, Region 5
77 West Jackson Boulevard
14J
Chicago, Illinois 60604-3590

7.4 Record Retention, Documentation, Availability of Information

All documents and information, in the possession of their the PRP's or contractors, subcontractors or representatives, relating to work performed under this Order, or relating to the hazardous substances found on or released from the site, will be preserved for six (6) years following completion of the removal actions required by this Order. At the end of this six (6) year period and at least 60 days before any non-duplicative document or information is destroyed, the PRP's shall notify EPA that such documents and information are available to EPA for inspection, and upon request, shall provide the originals or copies of such non-privileged documents and information to EPA. In addition, the PRP's shall provide non-privileged documents and information retained under this Section at any time before expiration of the six (6) year period at the written request of EPA.

8.0 PROJECT SCHEDULE

The projected schedule for completing the tasks outlined and activities described within this Work Plan is included in Table 8-1. The PRP's agree to perform all requirements within the projected time limits, unless the performance is delayed by a force majeure. For purposes of this Work Plan, a force majeure is defined as any event arising from causes beyond the control of the PRP's or of any entity controlled by the PRP's, including but not limited to their contractors and subcontractors, that delays or prevents performance of any obligation within this Work Plan despite the PRP's best efforts to fulfill the obligation. Force majeure does not include financial inability to complete the work or increased cost of performance.

The PRP's shall notify EPA orally within 24 hours after the PRP's become aware of any event that the PRP's contend constitutes a force majeure, and in writing within seven (7) calendar days after the event. Such notice shall: identify the event causing the delay or anticipated delay; estimate the anticipated length of delay, including necessary demobilization and remobilization; state the measures taken or to be taken to minimize the delay; and estimate the timetable for implementation of the measures. The PRP's shall take all reasonable measures to avoid and minimize delay. Failure to comply with the notice provision shall be grounds for EPA to deny the PRP's an extension of time for performance. The PRP's shall have the burden of demonstrating by a preponderance of the evidence that the event is a force majeure, that the delay is warranted under the circumstances, and that best efforts were exercised to avoid and mitigate the effects of the delay.

If EPA determines a delay in performance of a requirement within this Work Plan is or was attributable to a force majeure, the time period for performance of that requirement shall be extended as deemed necessary by EPA, taking into account the length of the delay and necessary remobilization requirements. EPA's determination of whether a delay in performance is attributable to a force majeure and the length of the time period extension are both subject to the dispute resolution procedures in Section VIII of the Order. Such an extension shall not alter the PRP's obligation to perform or complete other tasks required by the Work Plan which are not directly affected by the force majeure.

PROJECT SCHEDULE

Final Phase Remediation

Table 8-1

Page 1 of 1

2/17/99

WORK ITEM	1999				2000				2001			
	1	2	3	4	1	2	3	4	1	2	3	4
PROJECT DEVELOPMENT												
1. Project coordination												
2. Site access												
3. Health & Safety Plan												
4. Work Plan preparation												
SITE PREPARATION ACTIVITIES												
1. Site Survey												
2. Establish access road to site												
3. Mobilize/set up office trailer												
4. Establish site security												
5. Establish utilities												
6. Purchase equipment/supplies												
7. Refurbish decontamination pad												
8. Prepare Requests for Proposal												
a. Laboratory												
b. Earthwork												
c. Soil boring												
d. Tank cleaning/cutting work												
e. Hazcatting												
f. Lab Packs												
g. Geophysical study												
9. Install/repair fence												
INVESTIGATION/INITIAL REMEDIAL ACTIVITIES												
1. Inspect/sample tanks, drums & pits												
2. Hazcat/lab analyses and data interpretation												
3. Inventory contents/lable containers												
4. Geophysical study												
5. Secure lab packs												
6. Asbestos assessment												
7. Lagoon sampling/treatability study												
8. Locate/inventory monitoring wells												
9. Soil borings in the eastern third of property												
10. Cut/remove clean tanks												
11. Disposal site determinations												
12. Obtain disposal permits for wastes												
13. Remove/dispose of asbestos												
14. Demolish aboveground structures												
15. Remove/dispose of debris												
16. Close monitoring wells												
17. Design containment barrier												
18. Secure drum materials												
REMEDIATION ACTIVITIES												
1. Excavation of buried drums & tanks												
2. Clean drums, tanks & pits												
3. Repack drum contents												
4. Excavate/stage contaminated soils												
5. Stabilization/relocation of lagoons												
6. Install containment barrier												
7. Remove/dispose of liquid/solid wastes												
8. Cap lagoons												
9. Backfill/grade site												
10. Decommission decon pad												
11. Terminate utilities												
12. Demobilization												
FINAL REPORT												
POST CLOSURE CARE												

9.0 POST REMOVAL SITE CONTROL

For a period of one (1) year after the performance of the activities outlined in this Work Plan, or as otherwise directed by the OSC, post removal site control measures will be implemented. These measures will include maintaining the integrity of the security fence installation surrounding the CCCI site and denying access to the site by securely locking the entrance gates. Access keys will only be provided to the OSC and designated representatives of the PRP's.

On a quarterly basis, a representative of the PRP's will inspect the site to determine if the site security fence has been breeched or has deteriorated to the point of requiring repair and, to observe if any unauthorized circumstances have occurred which may have a significant adverse environmental impact on the CCCI site.

Any noteworthy observations will be reported in writing to the OSC or his designated representative within seven (7) days.

APPENDIX A - HAZCAT PROCEDURES

The following reference listed identifies the methodology and protocol that will be used to Hazcat the unknown drummed materials at the site.

- Compatibility Field Testing Procedures for Unidentified Hazardous Wastes, R. Turpin, et., al.
- Chemical Characterization and Bench-Scale Compositing of Hazardous Materials for Disposal Considerations, N. Graves, et., al.
- Hazardous Wastes Compatibility Chart, U.S. EPA Region V, et., al.
- Compatibility Testing and Procedural Outline, R. Weston, Inc., U.S. EPA Region V.
- Summary of Hazard Categorization (Hazcat) - Field Chemistry for First Responders, E & E and U.S. EPA Region V.
- Materials Handling Decision Diagram - Management of Uncontrolled Hazardous Waste Sites, D. Pyles, et., al.

Confined Space Entry Program

PURPOSE: The purpose of this policy is to provide CCCI site supervision and workers with information concerning the identification, hazards, and requirements for the safe entry into confined spaces that exist at the CCCI site.

POLICY: A safe and healthful workplace will be provided for all workers and contractors at the CCCI site. It is the policy of the PRP group and the PSO to provide requirements for the evaluation and safe entry into all confined spaces likely to be encountered during CCCI site operations.

PROCEDURES:

▼ Definitions:

"Confined Space" means any space that has limited or restricted means of entry/exit; is large enough for a person to enter; is not designed for continuous occupancy.

"Non-Permit Required Confined Space" means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

"Alternate Procedure Confined Space" means a confined space that contains only a hazardous atmosphere, or the potential for a hazardous atmosphere, that can be controlled through the use of forced air ventilation used prior to, and during, the confined space entry operation. Alternate procedure confined spaces may not contain hazards other than that of a hazardous, or potentially hazardous, atmosphere.

"Permit-Required Confined Space" means a confined space that contains, or has known potential to contain, a hazardous atmosphere; *and* has the potential for engulfing or entrapping the entrant; *and/or* has an internal configuration that could trap or asphyxiate the entrant; *and/or* contains other recognized safety or health hazards.

"Hazardous Atmosphere" means the atmosphere within a confined space that contains less than 20.9% oxygen, presence of flammable gases or vapors in excess of 10% of the lower flammable limit of the flammable substance present, or the presence of toxic gases, vapors, dusts or mists in excess of the materials' permissible exposure limits. Examples of toxins commonly found in confined spaces include vapors or gases that may be present in laboratories within buildings, carbon monoxide, etc.

"Entry Supervisor" means the employee responsible for evaluating and authorizing all confined space entry operations and for signing permits for entries into permit-required confined spaces. This employee has the authority to terminate all confined space entries if conditions in the confined space change or present an increased hazard to the entrants. In most situations, the contractor's supervisor will perform the duties of entry supervisor.

Confined Space Entry Program

"Isolation" means the process used to reduce or eliminate hazards within a confined space. Also referred to as Lockout & Tagout, hazards such as the flow of water can be eliminated by placement of plugs, closing of valves, blanking of piping, etc. Activation of pumps and other mechanical equipment, that can contribute to or increase the hazards within a space, can be protected through the opening of an electrical switch or other isolating method such as removal of fuses or electrical leads to the motor.

▼ Confined Space Entry Evaluation:

A preliminary evaluation of the types of confined spaces at the CCCI site has been conducted. This evaluation has revealed that the confined spaces to be entered can be classified as non-permit, alternate procedure, and permit-required confined spaces. The types of confined spaces entered by employees include all process tanks, pits, storage tanks, and excavations in contaminated soil. The PSO, designated backup PSO, or OSC may determine that additional confined spaces exist at the site. These spaces have limited means of entry and exit, are large enough to enter, and are not designed for continuous employee occupancy. Therefore, these spaces described above meet the definition of a confined space.

▼ Non-Permit Confined Spaces:

Evaluation and subsequent determination of a non-permit confined space may be based on a knowledge of the space concerning the potential that exists for a hazardous atmosphere, or other hazards, that may be present in the space. Generally, a determination that a non-permit confined space exists **MUST** be based upon atmospheric testing conducted using a properly calibrated gas detector and the verification that no other hazards exist within the confined space. Other hazards may include additional potential hazards such as engulfment, entrapment, drowning, exposure to moving or energized electrical equipment, etc. In some limited situations, non-permit confined spaces may be determined by a specific knowledge of the confined space and the potential for atmospheric hazards.

It must be demonstrated that *no potential* for a hazardous atmosphere exists in the confined space. The types of confined spaces at the CCCI site either contain, or have the potential to contain, a hazardous atmosphere or other additional hazards, and will be required to be treated as alternate procedure or permit required confined spaces according to the procedures that follow. This includes all excavations in which workers must enter the excavation to sample or perform other activities. If the entry supervisor is unsure of the status, or potential status, of any confined space that needs to be entered, then atmospheric testing must be performed to verify that a space is truly a non-permit confined space.

Confined Space Entry Program

Non-Permit Confined Space Entry Procedures:

Physical Protection of Work Area:

The entry supervisor will ensure that employees are protected from other activity in the work area by guarding the area where confined space entry activities are conducted.

Safe Removal of Covers:

Employees engaged in the removal of any covers to the confined space shall use caution in the removal of the cover to avoid creating sparks which could cause an explosion of gases or vapors contained within the space; or removal of a cover from a confined space which is under pressure. Covers may be heavy and may require the assistance of another employee to avoid injuries caused as a result of lifting or carrying a cover.

Guarding & Posting Signs at Entry to Confined Space:

The entry supervisor shall ensure that a railing, temporary cover, or other barrier is placed near or around the entrance or opening to protect employees from falling through the opening and to protect entrants from materials and debris that could fall into the opening during the entry.

Atmospheric Testing:

Employees trained in the use of atmospheric testing instrumentation shall test the atmosphere of the confined space prior to entry to determine the presence of a hazardous atmosphere. Contaminants or potential hazards within the confined space shall be tested in the following order:

1. Oxygen (% oxygen)
2. Flammable Gas or Vapor (% of LEL)
3. Toxic Gases or Vapors (See Table 5-1 for list of PEL's)

Instrumentation should be calibrated by a properly trained person prior to use each day, or according to the manufacturer's instructions.

For purposes of entry into non-permit confined spaces, the atmosphere must contain 20.9% oxygen, 10% lower explosive limit for flammables, and concentrations of toxic substances that are less than the PEL or TLV. Readings on most meters vary and fluctuate slightly, but in no case should entry be permitted if instrumentation indicates that a hazardous atmosphere may be present.

Confined Space Entry Program

If a hazardous atmosphere exists after testing the confined space, the entry supervisor shall classify the space as an alternate procedure or permit-required confined space using the procedures that follow.

Lock-out & Tag-out:

Prior to any entry into a confined space, the entry supervisor shall ensure that all sources of energy or material flow into the confined space have been identified. The entry supervisor shall attempt to determine all possible sources of energy and material flow.

Once these sources of energy or material flow have been identified, the entry supervisor shall take the necessary precautions to isolate, remove, or lock out such potentially hazardous sources from the confined space. Such actions may involve the closing and locking of valves connected to the confined space, placement of plugs or blocks in piping, the disconnection of piping and blanking of piping connected to the confined space, the opening and locking of switches where electrically operated devices are located within a confined space or operate pumps that could flow materials into the confined space, etc.

Confined Space Re-Classification:

If conditions change within the space that increase the hazard to the entrants, the entry supervisor shall terminate the entry and re-classify the space as either alternate procedure confined space or full permit-required confined space.

▼ Alternate Procedure Confined Spaces:

Permit-required confined spaces may be classified as an alternate procedure permit-required confined space if the entry supervisor determines that the only hazard with the confined space is that of a hazardous, or potentially hazardous, atmosphere. No other hazards, such as the hazard of engulfment or the hazards of moving equipment can exist in the space classified as an alternate procedure confined space. Employees within alternate procedure confined spaces must be capable of self-rescue. If employees within a space are not capable of self-rescue, the space shall be classified as a permit-required confined space. Examples of typical alternate procedure confined spaces include:

- Entry into process tanks where the following systems have been locked/tagged out:
 - All piping systems that can flow into the tank
 - All mechanical equipment including blenders and mixers in the tank
- Entry into excavations where ventilation can eliminate a hazardous atmosphere and no other additional hazard exists.

Confined Space Entry Program

If the entry supervisor determines that a confined space has only a hazardous atmosphere, or potential for hazardous atmosphere, then the following procedure shall be used prior to entry by any employee:

Physical Protection of Work Area:

The entry supervisor will ensure that employees are protected from other activity in the work area by guarding the area where confined space entry activities are conducted.

Safe Removal of Covers:

Employees engaged in the removal of any covers to the confined space shall use caution in the removal of the cover to avoid creating sparks which could cause an explosion of gases contained within the space; or removal of a cover from a confined space which is under pressure. Covers may be heavy and may require the assistance of another employee to avoid injuries caused as a result of lifting or carrying a cover.

Guarding & Posting Signs at Entry to Confined Space:

The entry supervisor shall ensure that a sign "DANGER - PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER" is posted near the entrance to the confined space. The entry supervisor shall also ensure that a railing, temporary cover, or other barrier is placed near or around the entrance or opening to protect employees from falling through the opening and to protect entrants from materials and debris that could fall into the opening during the entry.

Atmospheric Testing:

Atmospheric testing should ***ALWAYS*** be performed prior to ventilation of the confined space. The entry supervisor must know if hazards existed in the space prior to ventilation in order to anticipate increases in the hazards within the space.

Employees trained in the use of atmospheric testing instrumentation shall test the atmosphere of the confined space prior to entry to determine the presence of a hazardous atmosphere. Contaminants or potential hazards within the confined space shall be tested in the following order:

1. Oxygen
2. Flammable Gas or Vapor
3. Toxic Materials

Confined Space Entry Program

Instrumentation should be calibrated by a properly trained person prior to use each day, or according to the manufacturer's instructions.

For purposes of entry into alternate permit confined spaces, the atmosphere must contain 20.9% oxygen, 10% lower explosive limit for flammables, and concentrations of toxic substances that are less than the PEL or TLV. Readings on most meters vary and fluctuate slightly, but in no case should entry be permitted if instrumentation indicates that a hazardous atmosphere may be present.

There may be no hazardous atmosphere within the space whenever any employee is inside the confined space. If a hazardous atmosphere is detected while an employee is in the space, the entrants shall be ordered to leave the space and the confined space must be re-classified as a full permit-required confined space by the entry supervisor. The atmosphere within the space must be continuously monitored throughout the entry to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Continuous monitoring may be conducted from either inside or outside of the space, preferably outside the space, by an authorized attendant.

Lock-out & Tag-out:

Prior to any entry into a confined space, the entry supervisor shall ensure that all sources of energy or material flow into the confined space have been identified. This will be accomplished by reviewing plant diagrams. If drawings are not available, the entry supervisor shall attempt to determine all possible sources of material flow.

Once these sources of energy or material flow have been identified, the entry supervisor shall take the necessary precautions to isolate, remove, or lock out such potentially hazardous sources from the confined space. Such actions may involve the closing and locking of valves connected to the confined space, placement of plugs or blocks in piping, the disconnection of piping and blanking of piping connected to the confined space, the opening and locking of switches where electrically operated devices are located within a confined space or operate pumps that could flow materials into the confined space, etc.

Ventilation:

Continuous, forced ventilation must be provided for entry into alternate procedure confined spaces. Employees may not enter the space until the forced air ventilation has eliminated the hazardous atmosphere. Forced air ventilation must be designed to ventilate the immediate areas where employees are working within the space and must continue until all employees have left the space.

The entry supervisor should survey the work area to determine the best location for placement of ventilation equipment. The ventilator should be placed far enough away from the entrance to the

Confined Space Entry Program

confined space to prevent the recirculation of gases and vapors back into the space. Care must also be taken to locate the ventilator upwind of any equipment that produces exhaust and carbon monoxide.

If any liquids have been removed from the confined space, potentially hazardous vapors and gases must be removed prior to entry by providing adequate ventilation of the confined space. Caution must be taken during the removal and ventilation of confined spaces so as not to create a greater hazard. Removal and ventilation of flammable liquids and vapors can create static charges which can ignite flammable vapors inside or outside the space.

Permit Completion:

The entry supervisor shall prepare and sign a permit authorizing entry into an alternate permit-required confined space. This permit shall be kept near the entrance to the confined space. The permit shall contain results of initial atmospheric testing, a description of the ventilation system used, isolation methods used to eliminate the hazard of mechanical or electrical equipment or flow of materials into the space. The permit is valid only for the duration of the work shift or 24 hours, whichever is shorter. The permit system at the end of this procedure shall be used.

Attendants:

Attendants are not required during entry into alternate procedure confined spaces, however, the entry supervisor may require the use of an attendant if rescue considerations from the space indicate the potential need for an attendant. Such considerations may include the depth of the space being entered, the need to communicate to other employees outside the confined space, and the need for a person to be available to hand materials and equipment to the entrants.

Training:

The entry supervisor shall ensure that all entrants have been properly trained in the hazards of the confined space, methods used to evaluate atmospheric conditions within the alternate procedure confined space, emergency procedures to be used in the event evacuation from the space becomes necessary and the use and application of this procedure and permit system.

Confined Space Re-Classification:

If conditions change within the space that increase the hazard to the entrants, the entry supervisor shall terminate the entry and re-classify the space as a full permit-required confined space.

Confined Space Entry Program

▼ Permit-Required Confined Spaces:

If the entry supervisor determines that the hazards within the confined space cannot be controlled through the use of forced air ventilation, or that additional non-atmospheric hazards exist within the space, then the confined space shall be handled as a permit-required confined space. If the entry supervisor determines that an alternate procedure confined space prohibits employees from self-rescue, the space shall be classified as a permit-required confined space. Examples of permit-required confined spaces include:

- Entry into tanks with life threatening atmospheres
- Entry into non-isolated manholes
- Entry into excavations where a hazardous atmosphere exists and flow of water or other material into the excavation creates a drowning hazard
- Entry into any process tank where piping and material flow has not been isolated and locked out

If the entry supervisor determines that a permit-required confined space exists, the following procedures shall be followed prior to entry by any employee into the permit-required confined space:

Physical Protection of Work Area:

The entry supervisor will ensure that employees are protected from other activity in the work area by guarding the area where confined space entry activities are conducted.

Safe Removal of Covers:

Employees engaged in the removal of any covers to the confined space shall use caution in the removal of the cover to avoid creating sparks which could cause an explosion of gases contained within the space; or removal of a cover from a confined space which is under pressure. Covers may be heavy and may require the assistance of another employee to avoid injuries caused as a result of lifting or carrying a cover.

Guarding & Posting Signs at Entry to Confined Space:

The entry supervisor shall ensure that a sign "DANGER - PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER" is posted near the entrance to the confined space. The entry supervisor shall also ensure that a railing, temporary cover, or other barrier is placed near or around the entrance or opening to protect employees from falling through the opening and to protect entrants from materials and debris that could fall into the opening during the entry.

Atmospheric Testing:

Atmospheric testing should **ALWAYS** be performed prior to ventilation of the confined space. The entry supervisor must know if hazards existed in the space prior to ventilation in order to anticipate increases in the hazards within the space.

Employees trained in the use of atmospheric testing instrumentation shall test the atmosphere of the confined space prior to entry to determine the presence of a hazardous atmosphere. Contaminants or potential hazards within the confined space shall be tested in the following order:

1. Oxygen
2. Flammable Gas or Vapor
3. Toxic Materials

Instrumentation should be calibrated by a properly trained person prior to use each day, or according to the manufacturer's instructions.

For purposes of entry into permit-required confined spaces, the atmosphere must contain 20.9% oxygen, 10% lower explosive limit for flammables, and concentrations of toxic substances that are less than the PEL or TLV. Readings on most meters vary and fluctuate slightly, but in no case should entry be permitted if instrumentation indicates that a hazardous atmosphere may be present.

If the concentration of oxygen cannot be maintained at 20.9% or the concentrations of toxic gases and vapors cannot be reduced to levels below the PEL or TLV, workers may enter the permit-required confined space with self-contained breathing apparatus or air-supplied respirator with emergency escape air bottle. There may be no hazardous atmosphere within the space unless the employee uses an air line respirator equipped with an emergency escape bottle. Unless directed by the PSO, designated backup PSO, or OSC, it is not permissible for a worker to enter a space in which a flammable atmosphere is present.

If a hazardous atmosphere is detected while an employee is in the space, the entrants shall be ordered to leave the space until the hazardous atmosphere within the space is eliminated through increased ventilation or isolation methods. The entry supervisor must verify that the hazardous atmosphere has been eliminated through additional atmospheric testing that is documented on the permit form.

The atmosphere within the space must be continuously monitored throughout the entry to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Continuous monitoring may be conducted from either inside or outside of the space, preferably outside the space, by an authorized attendant.

Confined Space Entry Program

Lock-out & Tag-out:

Prior to any entry into a confined space, the entry supervisor shall ensure that all sources of energy or material flow into the confined space have been identified. This will be accomplished by reviewing plant diagrams and maintenance instructions. If drawings are not available, the entry supervisor shall attempt to determine all possible sources of energy and material flow.

Once these sources of energy or material flow have been identified, the entry supervisor shall take the necessary precautions to isolate, remove, or lock out such potentially hazardous sources from the confined space. Such actions may involve the closing and locking of valves connected to the confined space, placement of plugs or blocks in piping, the disconnection of piping and blanking of piping connected to the confined space, the opening and locking of switches where electrically operated devices are located within a confined space or operate pumps that could flow materials into the confined space, etc.

Ventilation:

Continuous forced ventilation must be used for entry into permit-required confined spaces, except where the use of such ventilation creates a greater hazard. Ventilation may also not be needed when workers use SCBA or supplied air respiratory protection when entering and working in confined spaces. Except for the situations above, workers may not enter the space until the forced air ventilation has eliminated the hazardous atmosphere. Forced air ventilation must be designed to ventilate the immediate areas where workers are within the space and must continue until all workers have left the space.

The entry supervisor should survey the work area to determine the best location for placement of ventilation equipment. The ventilator should be placed far enough away from the entrance to the confined space to prevent the recirculation of gases and vapors back into the space. Care must also be taken to locate the ventilator upwind of any equipment that produces exhaust and carbon monoxide.

If any liquids have been removed from the confined space, potentially hazardous vapors and gases must be removed prior to entry by providing adequate ventilation of the confined space. Caution must be taken during the removal and ventilation of confined spaces so as not to create a greater hazard. Removal and ventilation of flammable liquids and vapors can create static charges which can ignite flammable vapors inside or outside the space.

Attendants:

Attendants are required to be present at all times during permit-required confined space entries. The entry supervisor shall ensure that the primary duty of the attendant(s) is the monitoring of entrants. Attendants can also act as helpers by handing tools, equipment, and materials to

Confined Space Entry Program

workers within the space, as long as those secondary responsibilities do not distract or remove the attendants from the confined space entrance for more than a few moments.

The attendants must be trained in the rescue procedures that may become necessary during the confined space entry. Wherever possible, entrants should attempt to use non-entry rescue techniques to remove entrants from the space. These methods are described below. If necessary, properly trained entrants may enter the space using air-line respirators with escape bottles to remove victims from within the space.

Communications:

The entry supervisor shall ensure that attendants can effectively communicate with entrants in the confined spaces. Attendants should maintain visible and audible contact with the entrants. Radios may be required if the attendants cannot effectively communicate with entrants.

Emergency Equipment & Rescue:

The entry supervisor shall ensure that attendants are instructed to never enter the confined space to attempt a rescue, unless the attendants have been properly trained, equipped and drilled in confined space entry rescue.

The entry supervisor shall ensure that adequate emergency rescue equipment is available and set-up prior to entry in the confined space. When trained rescue personnel are not available for rescue within the confined space, the entry supervisor shall ensure that each entrant is equipped with a full body harness and a "D" ring located at the back near the shoulder level and that the end of the retrieval line is securely attached to an approved winch/tripod for rescue from vertical spaces greater than 5 feet deep.

Any full body harness or mechanical retrieval device which is used to arrest the fall of an employee being lowered into, or removed from a confined space, shall be removed from service immediately and tested and re-certified by the manufacturer.

If non-entry rescue from a confined space is not possible, the entry supervisor shall ensure that at least two attendants are available to perform entry rescue. If it becomes necessary to enter the confined space to rescue the entrant, one of the attendants will wear an air line respirator with escape bottle, or self-contained breathing apparatus, and enter the space to rescue the entrant.

The attendant shall rescue the entrant by assisting the entrant out of the space, if the entrant is conscious and capable of being assisted or through the use of a body harness, wristlets, or other extrication equipment necessary to remove the entrant from the space. The second attendant shall remain at the entrance to the confined space and monitor the activities of the rescuer and the victim. If the rescuer in the confined space becomes a second victim, the second attendant shall summon outside assistance by contacting the PSO or designated back-up PSO.

Confined Space Entry Program

Permit Completion:

The entry supervisor shall prepare and sign a permit authorizing entry into a permit-required confined space. This permit shall be posted at the portal to the confined space. The permit shall contain results of initial atmospheric testing, a description of the ventilation system used, isolation methods used to eliminate the hazard of mechanical or electrical equipment or flow of materials into the space. The permit is valid only for the duration of the work shift or 24 hours, whichever is shorter. The permit system at the end of this procedure shall be used.

Training:

The entry supervisor shall ensure that all entrants and attendants have been properly trained in the hazards of the permit-required confined space, methods used to evaluate atmospheric conditions within the confined space, emergency procedures to be used in the event evacuation from the space becomes necessary, and the use and application of this procedure and permit system. The entry supervisor shall also ensure that entry rescue is practiced at least annually and that all personnel involved in confined space entry have received proper instruction, training, and certification in first aid and cardio-pulmonary resuscitation.

Confined Space Re-Classification:

If conditions change within the space which increase the hazard to the entrants, the entry supervisor shall terminate the entry and re-evaluate entry into the confined space. Examples of conditions which could cause termination of entry could be uncontrolled atmospheric hazards detected by continuous monitoring or the existence of additional hazards such as the rise in the level of water or materials in the space which present a hazard to the entrant.

Completion of Confined Space Entry Operations:

Upon completion of all work within confined spaces, the entry supervisor will ensure that the following actions have been completed:

1. All entrants have safely evacuated the confined space
2. Debriefing entrants and attendants related to conditions within the space
3. All tools and equipment have been removed from the confined space
4. The confined space has been properly closed or secured
5. The permit form has been canceled and signed
6. The canceled permit is returned to the PSO for filing

Confined Space Entry Program

▼ Confined Space Entry Procedure Review:

If the entry supervisor discovers at the conclusion of the entry that the procedure does not fully address all hazards revealed during the entry, the entry supervisor should contact the PSO or designated back-up PSO immediately. A review and revision of the procedure will be completed prior to the next CCCI site confined space entry.

☐ Non-Permit ☐ Alternate Procedure:

(Stop-proceed
with entry)

☐ With attendant

☐ Isolation used

☐ Permit-Required

☐ Isolation used

Ventilation:☐ Yes - Ventilation☐ No - Ventilation☐ Continuous forced air☐ Exhaust ventilation

Explain why: _____

Rescue Equipment:☐ Non-Entry Rescue:☐ Tripod & winch☐ Full body harness☐ Radio or cell phone☐ Entry Rescue:☐ Air-line respirator☐ Adequate air supply☐ Life-line for rescue☐ Tripod & winch for removal☐ Radio or cell phone☐ Second attendant/rescuer

Emergency phone # : _____

Entry Authorization:

I acknowledge that I have thoroughly reviewed the hazards present in the confined space to be entered. Based upon those hazards, the safety procedures selected, and my knowledge of the confined space and the work to be performed, I authorize the above individuals to work in the confined space.

Name of Entry Supervisor_____
Signature**Permit Cancellation:**

Date Cancelled: _____

Time Cancelled: _____

Permit Cancelled:

☐ Job completed☐ Hazards identified☐ End of day

Permit Cancelled By:

Name of Entry Supervisor_____
Signature

Respiratory Protection Program

PURPOSE: To provide requirements for the selection, use, and maintenance of respiratory protection equipment used to protect workers from harmful concentrations of vapors, mists, dusts, gases & fumes generated during operations performed by CCCI site workers.

POLICY: When engineering controls, such as natural or mechanical ventilation, are not feasible to control exposure to airborne contaminants, appropriate respiratory protective equipment shall be provided, used and maintained to prevent exposure of workers to unsafe levels of airborne contaminants generated during site operations.

PROCEDURES:

▼ Respirator Selection:

Respirators may be required to protect employees from exposure to:

- Nuisance dust encountered during normal operations
- Concentrations of hazardous substances listed in Table 5-1 of the Health and Safety plan
- Hazards associated with entry into confined spaces
- Other hazards identified by the PSO or designated back-up PSO

For exposure to products obtained and used by contractors at the site, material safety data sheets will be reviewed as new supplies are purchased to evaluate possible exposure to new airborne contaminants. If it is discovered that potential over-exposure to a new airborne contaminant exists, the proper respirator cartridge shall be obtained to protect against the hazard, or air-supplied respiratory protective equipment shall be used.

▼ Operations Where Respirators May Be Required To Be Used:

Respirators may need to be worn during the following operations, depending on the amount of air contaminant generated during the operation:

- Operations that generate dust or dusts containing hazardous substances
- Site sampling activities
- Handling of drums
- Cleaning of tanks
- Removal of asbestos containing materials
- Demolition of structures
- Excavation of contaminated soils
- Other operations that generate airborne vapor, gas, fume, or particulate

Respiratory Protection Program

▼ Medical Evaluations:

No employee will be assigned a respirator unless they have first been evaluated by a physician to determine if they are physically capable of performing the work and using the prescribed respiratory protective equipment. The physical shall include spirometry, in addition to medical questions related to use of a respirator. The medical evaluation and clearance shall be performed by a physician selected by the contractor and shall be part of the annual hazardous waste worker physical evaluation.

▼ Facial Hair Policy:

Facial hair prevents an effective face to facepiece seal of both negative and positive pressure respiratory protective equipment. This condition can allow potentially harmful vapors, mists, fumes, and dusts to be inhaled while the respirator is worn. Therefore, CCCI site workers will not be allowed to use a respirator if they have a beard, sideburns, or mustache that interferes with the seal of the respirator. This policy only applies to those tasks that involve the required use of a respirator. Workers that are instructed to perform work requiring the use of a respirator and that have a beard which interferes with the seal of the respirator, will be instructed to shave, will be assigned other work not involving the use of a respirator or asked to leave the site.

▼ Assignment, Maintenance, and Cleaning of Respirators:

Each worker that will be using a respirator to protect against inhalation of potentially hazardous airborne contaminants, shall be assigned a respirator. That worker shall be responsible for periodically cleaning and disinfecting the respirator. No worker shall perform repairs or maintenance on any respirator. Defective or malfunctioning respirators must be returned to the supervisor for a replacement.

Each worker is responsible for thoroughly cleaning and properly storing their respirator. All cartridges should be removed from the respirator prior to cleaning. After use, respirators should be cleaned in warm soapy water, rinsed, allowed to dry, and stored in a plastic bag. No solvent or abrasives should be used to clean the respirator. Special care should be taken to prevent damage to the lens of a full-face respirator. The lens of a full-face respirator should be cleaned and dried using a soft cloth.

▼ Fit Testing:

Prior to the assignment of the respirator, each worker shall be properly fit tested to ensure an adequate face to facepiece seal. The worker shall put the respirator on and adjust it to obtain the best seal possible. Fit testing will be conducted annually, or any time the worker believes an adequate seal is not being maintained.

Respiratory Protection Program

After the respirator has been properly adjusted, the respirator shall be tested for adequate seal using an irritant smoke tube test performed in a hood by passing the smoke tube around the perimeter of the respirator. The employee will be required to move his head around, back and forth, and required to speak during the smoke tube test. If the employee indicates the presence of the irritant smoke the respirator shall be re-adjusted to obtain a more adequate seal or replaced with another respirator of a different size. The respirator shall not be assigned until an adequate seal can be obtained.

▼ Worker Training:

One of the most important elements of the CCCI site respiratory protection program is the proper training of its workers that use respiratory protective equipment. The CCCI site training program will address the following areas:

- The nature and danger of the airborne contaminant for which respiratory protective equipment will be used.
- A discussion of the possible health effects, or signs and symptoms of exposure the worker may experience if the respirator is not used.
- Instruction of the different parts of the respirator including exhalation and inhalation valves, straps, facepiece, filter cartridge, gaskets, etc.
- Instruction in the proper method of donning (putting on) and adjusting the respirator.
- Instruction in obtaining a proper fit of the respirator after initial fit testing has been performed. The two methods of checking proper fit shall be:
 - Negative Pressure Test - The worker shall don the respirator and adjust it to obtain the best fit. The worker shall then place their hands over the filter cartridge(s) to prevent the flow of air through the cartridge and inhale. If a negative pressure can be obtained, the respirator has an effective seal and the exhalation valve is functioning properly.
 - Positive Pressure Test - After the worker performs the negative pressure test above, they should place their hand over the exhalation valve and exhale. If a resistance to exhalation can be detected, the inhalation valves are functioning properly. This test DOES NOT provide evidence of a proper fit.

Respiratory Protection Program

- Training in the proper cleaning and inspection of respirators after use. Each worker shall be instructed to do the following after each use:
 - Clean the respirator after each use with soap and water. DO NOT use a solvent to clean the respirator, it could damage the valves and cause it to malfunction during its next use.
 - Inspect the respirator and valves for damage after each use and cleaning. Valves should be inspected for damage such as tears or warping. Damaged respirators should be returned to a supervisor for replacement.
 - Properly store the respirator by placing it in a plastic bag and then in an area free from possible damage by tools, equipment, etc.
- Instruction in methods to determine when a filter cartridge is no longer functioning properly or filtering the contaminant for which it was intended. The methods used to determine if a cartridge is no longer functioning properly include:
 - Resistance To Breathing - If the worker experiences increased difficulty in breathing detected by an increased resistance in the respirator, this is an indication that the filter cartridge is fouled and ready to be replaced. This is the primary method used to determine when a HEPA filter cartridge is in need of replacement.
 - Smelling Of Contaminant* - If the worker can smell, or taste, the contaminant being filtered and the respirator has been properly fitted, this is an indication that the filter cartridge media is fouled and ready to be replaced.
- * Relying solely on smelling of the contaminant is not always a reliable method of detecting expiration of the filter cartridge. Some chemicals have odor thresholds that occur at levels much higher than permissible exposure limits, thus exposing the employee to harmful levels before detection can occur. Additionally, some chemicals have poor warning properties as they cannot be detected by sense of smell. In operations involving the use of such chemicals, other methods such as routine replacement of cartridges should be used to ensure proper function of the respirator cartridge media.
- ** Air purifying respirators must **NEVER** be used in atmospheres which are immediately dangerous to life and health (IDLH). Such conditions include:
 - Oxygen deficient atmospheres
 - Atmospheres in which the concentration of air contaminant is at a level that would be lethal upon failure of respiratory protective equipment
 - For protection against hydrogen cyanide and carbon monoxide

Respiratory Protection Program

▼ Auditing Effectiveness Of Respiratory Protection Program:

The PSO or designated backup PSO shall periodically audit the effectiveness of the respiratory protection program by ensuring that workers are properly using the respirators assigned to them. This check should include if respirators are being donned correctly, adjusted properly, checked for proper seal, cartridges replaced when expired, properly cleaned, properly inspected, and properly stored.

▼ Responsibilities:

- Workers - Site workers are responsible for using their assigned respirators when performing operations that may produce concentrations of airborne contaminants that exceed permissible exposure limits. Workers are also responsible for properly cleaning and maintaining respirators as trained. Failure to use respirators when required, or abuse of assigned respiratory protective equipment, can result in disciplinary action.
- Supervisors - Supervisors are responsible for ensuring that workers are properly using and caring for their respiratory protective equipment by conducting periodic audits and inspections.

**CCCI Site
Respirator Fit Testing Program**

Date: _____ **Name:** _____

Job: _____

Respirator Assigned: Half-Face Respirator: _____ Size: _____

Full-Face Respirator: _____ Size: _____

Filter Cartridge Assigned: Organic Vapor: _____ HEPA: _____ Other: _____

Worker Conditions & Fit Testing:

Worker free of any conditions which may prevent an effective face to facepiece seal such as beard, dentures, facial features, etc.

Yes: _____ No: _____

Description: _____

Worker successfully fitted with respirator(s) with no evidence of reaction to irritant smoke or isoamyl acetate (banana oil) in test hood

: Yes: _____ No: _____

Explain: _____

I acknowledge that I have been provided with the respirators indicated above and have been properly fitted with the respirator through the use of an irritant smoke and/or isoamyl acetate (banana oil) test. During the test, I was unable to detect the presence of the irritant smoke, or banana oil, when asked to breathe, move, and speak while wearing the respirator.

Signature

**CCCI Site
Respiratory Protection Training Acknowledgment**

Date: _____

Name: _____

Job: _____

I acknowledge that I have been provided with training and instruction in the proper use, donning, limitations, fitting, inspection, and cleaning of the respirator(s) assigned to me. I have been provided with a written copy of the CCCI Site Respiratory Protection Program. I have been instructed to have the respirators available for times that they may be used in my work.

I recognize the hazards of airborne contaminants that may be present in my work area or job site, and that the use of respiratory protection is designed to protect me from those harmful exposures. I have also been instructed to recognize when to change cartridges and when to recognize when components of the respirator may be defective. I further understand that failure to use respiratory protection when instructed is a serious safety violation and that I may be subject to disciplinary action.

Signature

Reporting & Investigating Injuries & Injury Management

PURPOSE: To provide requirements and guidelines for the treatment, investigation, and reporting of all occupational injuries and illnesses and to provide CCCI site management and supervision with the guidelines necessary to locate treatment for injuries and to return injured workers to full or restricted work as soon as possible following an occupational injury.

POLICY: It is the policy of the CCCI site management to require the immediate treatment, investigation, and reporting of all accidents, injuries, and job related illnesses involving site workers. Failure to comply with this procedure can result in disciplinary action.

PROCEDURE:

▼ Treatment Of Occupational Injuries:

Life Threatening or Serious Injuries:

All life threatening or serious injuries involving a site worker require the immediate notification of the local ambulance service. Those employees or persons in the area that are trained in CPR or first aid may provide assistance in sustaining the injured employee until an ambulance and trained rescuers arrive.

Once emergency services have been summoned, a supervisor must be contacted and notified of the emergency. The PSO or designated backup PSO will arrange for a supervisor or contractor's supervisor to go to the hospital where the injured worker has been taken to determine the status of the injured or ill employee.

The designated supervisor will determine if the injured worker's family has been contacted regarding the emergency. The supervisor or manager shall either contact the injured worker's family, or arrange for hospital staff to make the contact.

Non-Life Threatening or Non-Serious Injuries:

In the event a site worker receives an injury that requires medical treatment or evaluation, that worker shall be taken to the nearest designated medical clinic or hospital. The worker must never be allowed to transport himself, or arrange for transportation, to the clinic for initial treatment or evaluation.

If necessary, the designated supervisor may need to arrange for transportation of the injured worker back to work or to his home.

Reporting & Investigating Injuries & Injury Management

▼ Notification:

Workers' Responsibility:

The first priority in the event of an injury is to ensure that the injured worker receives the appropriate first aid or medical treatment. Reporting activities shall only be initiated once appropriate medical treatment has been obtained.

It is the responsibility of all site workers to immediately report to their supervisor the occurrence of any injury while at work. Each injured site worker will be expected to complete the Employee Accident Report form in this procedure.

Supervisor Responsibility:

Upon notification of an accident resulting in injury to a site worker, the supervisor shall contact the PSO or designated backup PSO immediately. The supervisor shall complete the form at the end of this procedure based on information provided by the injured worker or witnesses.

It is the responsibility of the injured worker's supervisor to completely and thoroughly investigate the occurrence of all injuries and accidents that occur in the worker's area. The supervisor may seek the guidance of his/her manager in the event of a serious or complicated situation or if there is reason to believe that fraud is involved.

The primary objective of all accident investigation and reporting is the identification of the factors that caused the accident to occur. Such factors may include a lack of training of the injured worker, improperly maintained equipment, violation of a safety rule or safety procedure, or commission of an unsafe act by the injured person or other worker. Once all causes have been identified and examined, the supervisor must identify and implement corrective measures designed to prevent the recurrence of a similar accident in the future. The reporting and investigation process shall not be considered complete until corrective action has been completed.

Management's Responsibility:

The PSO or affected contractor shall be responsible for auditing the timeliness and completeness of accident reporting. If an audit determines that a site worker has failed to report an on the job injury, that employee may be subject to disciplinary action, including possible termination.

▼ Restricted Work Activity:

The supervisor must communicate to the treating physician that restricted work activity (light duty) is available for the injured worker. The supervisor shall request in writing the specific physical restrictions or limitations placed on the worker by the physician. Unless the restrictions call for bed

Reporting & Investigating Injuries & Injury Management

rest or a total restriction of activity, the supervisor shall request that the individual be returned to work on a restricted basis. If the physician has any specific questions concerning the restricted work activity program, the doctor should be requested to contact the PSO, designated backup PSO, or affected contractor for additional information.

▼ OSHA 200 Log and Summary of Occupational Injuries and Illnesses:

The PSO or designated backup PSO is responsible for maintaining the OSHA 200 Log and Summary of Occupational Injuries and Illnesses. Affected contractors are responsible for maintaining the OSHA log for injuries involving their own employees. Entries shall be made for all injuries and illnesses that require more than first aid treatment. The back of the log describes what injuries should be entered on the log. The log shall be kept current as injuries occur during the calendar year.

The log shall be posted where all employees can read it no later than February 1 the following year and shall remain in place until at least March 1. The OSHA 200 log shall be kept on file in the office for at least 5 years following its completion. A copy of the OSHA 200 log is found at the end of this procedure.

**CCCI Site
Accident/Injury Report Form**

Name Of Injured Employee _____

Date of Injury _____

Occupation _____

Address Where Accident Occurred _____

Describe The Injury Sustained By The Employee _____

Describe How The Accident Occurred: _____

What Unsafe Condition Contributed To The Accident: _____

What Unsafe Act By An Employee Contributed To The Accident: _____

Describe Any Violation of A Safety Rule: _____

Describe Action Taken or Recommended to Prevent a Similar Accident from Occurring _____

Names Of Witnesses To Accident: _____

Name of Clinic or Physician That Treated Employee: _____

Name of Supervisor _____

Signature _____

Date of Report: _____

**CCCI Site
Injured Worker Accident Report**

Employee's Name: _____

Date of Accident _____ Time of Accident: _____

Location of Accident: _____

Describe What Happened: _____

Describe How You Were Injured And What Caused The Injury: _____

What Part(s) of Your Body Were Injured: _____

Have You Ever Had An Injury To This Part Of Your Body Before?: _____

If Yes To Above, Describe: _____

Who Was Present When The Accident Happened?: _____

I Certify That The Above Report Is True And Correct:

(print and sign name)

(date)

***ACCIDENT REPORTS MUST BE HANDED IN TO YOUR SUPERVISOR, OR CONTRACTOR EMPLOYER, IMMEDIATELY AFTER ANY ACCIDENT. FAILURE TO PROMPTLY REPORT ACCIDENTS WILL RESULT IN DISCIPLINE UP TO AND INCLUDING TERMINATION.**

CCCI Site Health and Safety Audit

Job-Site Information & Documentation		YES, NO OR N/A (circle answer)		
1.	OSHA and other necessary postings in place	YES	NO	N/A
2.	Company safety manual on site	YES	NO	N/A
3.	MSDS files available in trailer or on site	YES	NO	N/A

Housekeeping, Sanitation, First Aid		YES, NO OR N/A (circle answer)		
4.	Toilet facilities adequate & clean	YES	NO	N/A
5.	Adequate drinking water available	YES	NO	N/A
6.	Hand washing facilities available when required	YES	NO	N/A
7.	Job site housekeeping acceptable	YES	NO	N/A
8.	First aid supplies available	YES	NO	N/A
9.	Emergency phone numbers posted	YES	NO	N/A

Environmental Health		YES, NO OR N/A (circle answer)		
10.	Sub-contractors have written HAZCOM program on site	YES	NO	N/A
11.	MSDS available for all hazardous chemicals on site	YES	NO	N/A
12.	All site workers in possession of 40 hour and 8 hour refresher cards, if applicable	YES	NO	N/A
13.	Proper levels of personal protective equipment being used	YES	NO	N/A
14.	Decontamination being used when indicated in site health and safety plan	YES	NO	N/A
15.	All site workers presented with site safety and health plan	YES	NO	N/A
16.	Appropriate respirators worn and used properly	YES	NO	N/A
17.	Workers wash face and hands after leaving exclusion zone	YES	NO	N/A
18.	All workers signed in on visitors log	YES	NO	N/A
19.	All perimeter areas of site secured	YES	NO	N/A
20.	Current air monitoring data available			
21.	Sub-contractors have written respirator program on site	YES	NO	N/A
22.	Lighting adequate in all work areas	YES	NO	N/A

Fire Prevention		YES, NO OR N/A (circle answer)		
23.	Safety cans used for storage of flammable liquids	YES	NO	N/A
24.	Adequate number of fire extinguishers available	YES	NO	N/A
25.	Fire extinguishers sealed and inspected	YES	NO	N/A
26.	Fire extinguishers near torch and welding work	YES	NO	N/A
27.	Gas cylinders stored upright with caps in place	YES	NO	N/A
28.	Oxygen and fuel gas cylinders stored separately	YES	NO	N/A
29.	Gas cylinders secured to prevent them from tipping	YES	NO	N/A
30.	Combustibles removed from torch or welding areas	YES	NO	N/A

Date: _____ Project Safety Officer: _____

CCCI Site Health and Safety Audit

Personal Protective Equipment		YES, NO OR N/A (circle answer)		
31.	All persons on site wearing hard hats	YES	NO	N/A
32.	Eye protection used with saws, grinding, chipping, etc.	YES	NO	N/A
33.	Shoes/boots appropriate and in good condition	YES	NO	N/A
34.	Welding/burning goggles used	YES	NO	N/A

Tools		YES, NO OR N/A (circle answer)		
35.	Power tools, saws, etc. equipped with proper guards	YES	NO	N/A
36.	Blades of power saws properly installed and undamaged	YES	NO	N/A
37.	Cases on double insulated tools intact and not cracked	YES	NO	N/A
38.	Handles on tools in good condition and not cracked or taped	YES	NO	N/A
39.	Hand tools in good condition	YES	NO	N/A

Electrical Safety		YES, NO OR N/A (circle answer)		
40.	All electrical tools/equipment grounded or double insulated	YES	NO	N/A
41.	All overhead electrical hazards identified, posted, protected	YES	NO	N/A
42.	Ground fault protection (GFCI) available/used	YES	NO	N/A
43.	Extension and equipment cords in good condition	YES	NO	N/A

Scaffolding		YES, NO OR N/A (circle answer)		
44.	Scaffolding secure, level, and plumb	YES	NO	N/A
45.	All working platforms are fully planked	YES	NO	N/A
46.	Planks overlap 6" - 8" on end frames	YES	NO	N/A
47.	Planks overlap each other at least 12"	YES	NO	N/A
48.	Guardrails on all scaffold platforms over 10 feet high	YES	NO	N/A
49.	Toe boards on all working platforms of scaffolds	YES	NO	N/A
50.	Scaffold secured to structure properly	YES	NO	N/A
51.	Cross bracing properly installed on scaffold	YES	NO	N/A
52.	Casters on rolling towers locked when set in place	YES	NO	N/A
53.	Fall protection worn in boom trucks and lifts	YES	NO	N/A

Date: _____ Project Safety Officer: _____

CCCI Site Health and Safety Audit

Fall Protection		YES, NO OR N/A (circle answer)		
54.	Guard rails installed on all open sides/floors with 6' fall exposure	YES	NO	N/A
55.	Guard rails sound and free of obvious defects	YES	NO	N/A
56.	Holes in floors/roofs protected by adequate covers or guardrails	YES	NO	N/A
57.	Workers using fall protection equipment when exposed 6 foot fall	YES	NO	N/A
58.	Anchor point sufficient for fall protection equipment	YES	NO	N/A
59.	Fall protection equipment free of excessive wear, cuts, defects	YES	NO	N/A
60.	Safety monitors used for workers outside of warning line system	YES	NO	N/A
61.	Work areas below barricaded to protect from falling materials	YES	NO	N/A

Cranes		YES, NO OR N/A (circle answer)		
62.	Cranes equipped with load charts or indicators	YES	NO	N/A
63.	Swing radius of crane barricaded or protected	YES	NO	N/A
64.	Operators manual available in cab of crane	YES	NO	N/A
65.	Outriggers of crane fully extended	YES	NO	N/A
66.	Rigging properly secured and free of defects	YES	NO	N/A
67.	Safety latch in place on crane hook	YES	NO	N/A
68.	Crane operated no closer than 10' from overhead power lines	YES	NO	N/A

Excavations		YES, NO OR N/A (circle answer)		
69.	Excavations greater than 5 feet deep use protective system	YES	NO	N/A
70.	Protective system/sloping adequate for soil type	YES	NO	N/A
71.	Spoil piles kept at least 2 feet from edge of excavation	YES	NO	N/A
72.	Water removed from excavation prior to entry by employees	YES	NO	N/A
73.	Sub-contractor has "competent person" on site at all times	YES	NO	N/A
74.	Shoring and trench shields used properly	YES	NO	N/A

Stairways & Ladders		YES, NO OR N/A (circle answer)		
75.	Ladders extend at least 3 feet above landing areas	YES	NO	N/A
76.	Ladders secured to the structure to prevent tipping	YES	NO	N/A
77.	Ladders in good condition and free of defects	YES	NO	N/A
78.	Non-metal ladders used for electrical hazards/work	YES	NO	N/A
79.	Stairs/temporary stairs provided with handrail/stairrail	YES	NO	N/A
80.	Stairs free of construction debris, electrical cords, etc.	YES	NO	N/A

Date: _____ Project Safety Officer: _____

CCCI Site Health and Safety Audit

For any NO answers, describe corrections taken:	
Question #	

Date: _____ Project Safety Officer: _____



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

April 27, 1999

REPLY TO THE ATTENTION OF

Mr. James T. Harrington, Co-Chairman
Conservation Chemical Company of Illinois
Steering Committee
Ross and Hardies
150 N. Michigan Avenue
Chicago, Illinois 60601-7567

Re: Approval of Proposed Contractor and Project Coordinator; Approval with Revisions to the Work Plan and Safety Plan for the Administrative Order on Consent for Conservation Chemical Company of Illinois Site, U.S. EPA Docket No. V-W-98-C-497

Dear Mr. Harrington:

By this letter, U.S. EPA approves the 6500 Group's selected general contractor Krikau, Pyles and Rysiewicz and Associates, for implementation of the Removal Work Plan at the Conservation Chemical Company of Illinois Site in Gary, Indiana. In addition, U.S. EPA approves the selected project coordinator, Mr. Fred Krikau.

The U.S. EPA has reviewed the 6500 Group's proposed Removal Action Work Plan and has identified some minor issues that must be addressed. This letter approves of the submitted Removal Work Plan with the revisions listed below. If the 6500 Group agrees with the revisions, they will automatically be incorporated into the Work Plan. This will not require a re-write of the Plan or a second approval letter. If the Group does not agree with the following revisions, then a conference should be set up immediately to discuss the revisions.

U.S. EPA Comments on CCCI Work Plan

Figure 2-1 on page 12:

Is the field office off-site or on the CCCI property? If it is off-site, the owner of the property will have to be notified.

Section 2.2.1 on page 13:

This section states that pH and cyanide are being analyzed in the field using a Hach DR/4000 U. Additional monitoring equipment must also be used (PID, FID, combustible meter, and a cyanide monitox).

Section 2.2.3 on page 15:

The section proposes reducing leaking drums by overpacking or covering the drums. To reduce the effect of leaking drums, the drums should be overpacked, but not covered. All leaking drums must be immediately overpacked.

Section 2.2.5 on page 15:

The proposed grab samples would not effectively characterize the entire contents of the lagoons. Composite samples must be used to accurately characterize the material in the lagoons. Composite samples must be collected to a minimum depth of 8 feet in the Pie Shape Basin and 3 feet in the acid sludge lagoon and off-site lagoon.

Section 2.2.7 on page 17:

The representative sample from a boring sample would be considered a composite sample. To determine a hot spot area, a grab sample at the specific depth must be analyzed or monitored with an HNU (head space readings from the sample). Grab samples must be collected at specific depths, 0-1 foot, 1-2 feet 2-3 feet and 3 feet and below, until the ground water is encountered.

Section 3.0 on page 20:

The work plan does not discuss any sampling validation requirements for the sample results. The minimum sample analysis requirement for data validation is set forth in U.S. EPA OSWER 9360.4 April 90 Guidance for Quality Assurance Level II. A minimum of 10% field duplicate samples must be collected and analyzed under this protocol. In addition, all of the data must be QA/QC checked independently from the lab by a field chemist working for the PRP Group. Performance Evaluation samples are required for PCB's, metals, and volatile and semi-volatile compounds.

Section 3.3 on page 23:

Include a provision for the U.S. EPA OSC to request a split sample of any sample collected by the 6500 Group's contractor. In addition, the U.S. EPA OSC may collect samples at any location throughout the site.

Section 3.3.2 on page 24:

Composite Samples of the Pits/Basins would be more characteristic of the waste. The entire depth of the pit and basin will have to be sampled to fully characterize the waste.

Section 3.3.3 on page 24:

A grab sample from each drum must be collected and will include all multi-layered material. Multi-layered material must be Hazcatted separately.

Section 3.3.5 on page 25:

ACM must be collected by a state-licensed and approved sampler.

Section 3.7 on page 27:

Under sample notification, the OSC is required to be notified not less than three days in advance of any sample collection activity. The sample notification must be a written notification given to and reviewed by the OSC. The written notification must be placed in the Site file.

In the work plan there is no mention of turnaround time for sample results. The standard turnaround time for sample results is approximately two to three weeks. The OSC must be notified and provided copies of all verbal and hard copy analytical data.

Section 4.0

The Quality Assurance Plan (QAP) must include the following items:

1) Use of OSWER 9360.4 April 90 QA Level II when analyzing and when validating the sample; 2) the turnaround time to conduct the sample analysis; and 3) the OSC should receive verbal and hard-copy sample results.

Section 5.4 on page 35:

The last sentence indicates that “. . .the site has a history of the handling, storage, and processing of variety of hazardous material included the following:”. Then it goes into section 5.4.1, chemical hazards. The information in table 5-1 through 5-3 must be included in Section 5.4.

Section 5.4.1.1 on page 36:

The abatement of Asbestos Containing Materials (ACM) must adhere to state and local regulations.

Section 5.4.1.1 on page 40:

Under the topic PCB, the first sentence on page 40 states that workers exposed to PCBs will be protected through the use of protective clothing. Include additional language requiring workers near PCB contamination to wear proper PPE.

The work plan states that the PCB work conducted will be monitored. At a minimum, a Real Time Aerosol (RAM) must be utilized to monitor dust levels and Action Levels. In addition, personnel air pumps shall be utilized, using NIOSH Method 5503.

Section 5.5.1 on page 51:

Workers must always work in pairs, no matter what type of PPE level is worn.

Section 5.5.3

For Tables 5-2 through 5-4, the action levels are not given or the requirements prior to conducting work on-site in the hot zone. The action levels are not predetermined for unknown chemicals. The standard U.S. EPA method for unknown chemicals or a mixture of chemicals is as follows (readings are collected in the breathing zone for one minute):

- <1 ppm above background level D
- 1-5 ppm above background level C
- 5-500 ppm above background Level B
- >500 ppm above background Level A

Section 5.5.3.4 on page 56:

The work plan indicates that workers would be suspended by crane to collect a sample from the lagoon. This is not a safe practice. A Cherry Picker with a basket is more appropriate.

Section 5.8 on page 66:

The emergency numbers for police, fire, ambulance, hospital, and any other emergency contacts must be listed in the safety plan. The medical section must indicate which personnel have CPR training.

Section 6.5 Subsurface Soil on page 74:

Under this section, the work plan indicates that if PCB-contaminated soil (> 50 ppm) is encountered during the removal activities in the amount of 500 cubic yards or less, that soil will be excavated, loaded, and removed off-site. The Consent Order states that PCB contamination will be excavated up to a maximum of 500 cubic yards, at which time a reopener will be evaluated. If an area is identified that is greater than 500 cubic yards, the excavation will start on that area until the 500 cubic yard maximum is reached and then negotiation will proceed for a potential reopener to the Consent Order.

Section 6.6 Lagoon Sludge on page 75:

All stabilization must be conducted within the lagoon area or waste management unit to comply with the Land Disposal Restrictions (LDR). If material is moved out of the waste management unit, the LDR may apply.

Section 6.9 Containment Barrier:

The evaluation, engineering, and design of the barrier must commence prior to any installation. The design and construction of the barrier will be approved by the OSC prior to construction.

Section 7.1 Monthly Report:

Excavation material and disposal information must be included in the monthly report.

Appendix A:

The Hazcatting information must be available in the work plan.

Please inform me regarding whether the 6500 Group accepts this approval of the Work Plan with the stated revisions. If the Group does not accept all of the revisions, then we should schedule a meeting as soon as possible. If you have any questions regarding this letter or need clarification on the revisions, please feel free to contact me at 312-353-9351. We are looking forward to working with you to bring this project to a successful completion.

Sincerely,



Steven J. Faryan, U.S. EPA
Region V, On-Scene Coordinator

cc: Dina Dalianis, Associate Regional Counsel, U.S. EPA
Valerie Mullins, Enforcement Specialist
KPR and Associates

LAW OFFICES

ROSS & HARDIES

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

150 NORTH MICHIGAN AVENUE
CHICAGO, ILLINOIS 60601-7567

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202-296-8800FAX
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JAMES T. HARRINGTON

May 5, 1999

Mr. Steven J. Faryan
On-Scene Coordinator (SF-5J)
United States Environmental Protection
Agency, Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: CCCI - Work Plan Approval and Conditions

Dear Mr. Faryan:

On behalf of the 6500 Industrial Highway Group, we are in receipt of the US EPA's approval letter dated April 27, 1999. The April 27, 1999 letter approved the Work Plan, Project Coordinator and Contractor for the remediation of the Conservation Chemical Company site that is located in Gary, Indiana. In addition to the approvals, the letter also contains a number of comments that are to be incorporated into the Work Plan. This letter further states that there is no requirement to rewrite the Work Plan and that if the comments in the letter are acceptable, they will be automatically incorporated into the Work Plan, most likely as an addendum.

All of the comments in the April 27, 1999 letter are acceptable to the 6500 Industrial Highway Group except one comment. This is the comment pertaining to Section 6.5, Subsurface Soil, on Page 74 of the Work Plan. Page 4 of your letter states "the consent order states that PCB contamination will be evacuated up to a maximum of 500 cubic yards, at which time a re-opener will be evaluated. If an area is identified as greater than 500 cubic yards, the evacuation will start on that area until the 500 cubic yards maximum is reached then negotiation will proceed for potential re-opener to the consent order." This is a misstatement of the AOC.

Section V, Number 2, Subparagraph (v) of the AOC, states as follows

"... However, with regard to 'other PCB-contaminated materials', as described in this subparagraph o., that are estimated to exceed 500

Mr. Steven Faryan

May 5, 1999

Page 2

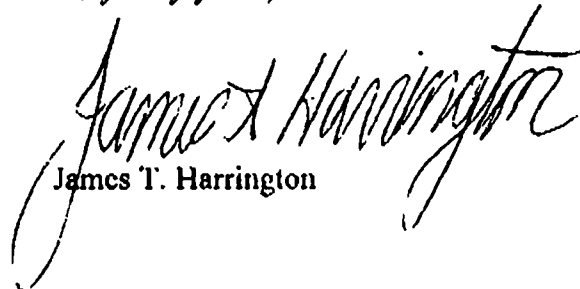
cubic yards in a single pocket, prior to or after Respondents' removal of such 'other PCB contaminated soil materials' up to 500 cubic yards, Respondents reserve the right to 'reopen' the issue of the cleanup of such 'other PCB-contaminated materials'"

Respondents therefore do not accept the proposed condition of the approval of the Work Plan. The 6500 Industrial Highway Group requests that the actual language in the Administrative Consent Order ("AOC") be used in place of the comment in the letter. If this is acceptable to the US EPA, the remediation can proceed without the need for a conference between the parties.

It is our understanding that this issue was discussed by Krikau, Pyles, Rysiewicz and Associates, the remediation contractor, with you, Steve Faryan, US EPA's On Site Coordinator. It is our understanding that you, Mr. Faryan, did not have a problem with changing the comment to the language of the AOC. Please advise us that this one change to the April 27, 1999 letter is acceptable to the US EPA.

If there are any questions, please contact the undersigned..

Very truly yours,



James T. Harrington

JTH/bjm

cc: Constandina K. Dalianis, Esq

Valerie Mullins, Enforcement Specialist

6500 Industrial Highway Group



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

April 13, 2000

KPR and Associates, Inc.
Attn: Mr. Fred Krikau
414 Plaza Drive, Suite 106
Westmont, Illinois 60559

Re: Modifications to the Work Plan required under the Administrative Order by Consent (AOC)
in the matter of Conservation Chemical Company of Illinois, Inc.(Site), Gary, Indiana.

Dear Mr. Krikau:

A number of modifications and changes have been made to the approved work plan since the initiation of work in June of 1999. These changes were discussed and verbally agreed upon by the U.S. EPA, On-Scene Coordinator and the 6500 Industrial Highway Group (6500 IH Group). Therefore, the purpose of this letter is to formally memorialize the modifications and changes made to the work plan referenced above pursuant to Section XVII of the AOC.

The modifications and changes made and agreed upon to date are the following:

- 1.) During the demolition of tanks 55 and 56, oil contaminated soils were found under and around these two tanks. Also, during the demolition of the cooling tower, drums were uncovered next to the cooling tower sump. U.S. EPA agreed to remediate any CERCLA excluded oil contaminated soils under and around tanks 55 and 56. The 6500 IH Group agreed to remove and dispose of the uncovered drums found next to the old cooling tower sump. These drums were removed and disposed on January 12, 2000.
- 2.) After the CCCI site was surveyed to determine the actual property lines, it was determined that approximately one half of the pie shaped lagoon, approximately one eighth of the acid sludge lagoon and all of the off-site lagoon are not on the CCCI property. The work plan requires that all off-site lagoon material be relocated on to the property. It was agreed between U.S. EPA and 6500 IH Group that two areas of the CCCI property could be used to place the off-site sludges, after stabilization and analytical results indicated the material was non-hazardous. The two areas agreed upon are the northwest corner of the site and existing low areas (former tank 56 area), and the eastern perimeter of the site (a low area located near the former API separator, Basin # 1). Clean clay was used to construct berms in these areas to prevent any migration of the material off-site and the material will be capped with clay.

3.) The Extent of Contamination Study, described in Section 2.2.7 of the work plan requires that fourteen soil borings would be conducted in the eastern one-third of the CCCI site. It was agreed by U.S. EPA and 6500 IH Group that test pits would be conducted in lieu of soil borings in the eastern one-third of the CCCI Site. These test pits were completed in October 1999.

4.) The work plan requires the removal of the existing groundwater monitoring wells per Indiana Department of Environmental Management regulations. At the request of U.S. EPA, the 6500 IH Group agreed not to remove these wells for a short period of time until after U.S. EPA sampled them one final time. This did not create any extension to the time line or project completion. The closure of the eight wells identified on the site was completed in December of 1999.

5.) During the digging of test pits, as described in item 3 above, building foundations and underground piping were encountered in the sub-surface grade which is believed to be from the Berry Oil Refinery that occupied the site prior to CCCI. A number of the sub-surface pipes appeared to be full of oil and several of the pipes appeared to exit the CCCI site and enter the EJ&E Railroad right-of-way. U.S. EPA conducted test pits outside of the fence to determine where the pipes terminated. It was found that all of the pipes along the EJ & E railroad right-of-way terminated at or within the CCCI property boundaries. Because of the concrete foundations and piping located in the area of concern, U.S. EPA agreed that only nine (9) test pits could be completed rather than the fourteen specified in the approved work plan.

6.) Due to the breach in integrity of the bottom of tank 51 and the visibly stained soils in the area, U.S. EPA requested that 6500 IH Group dig one test pit and collect subsurface soil samples. The soil sample confirmed that the soil was hazardous. The contaminated soil was disposed of at a hazardous waste facility.

7.) Because of the old foundations and piping described in item 5 above, U.S. EPA agreed to waive the requirement to perform a geo-physical study and/or magnetometer study on the eastern one third of the site. In lieu of the geophysical survey U.S. EPA requested that test pits be conducted south and north of the decontamination pad where drums, buried tanks and pits had already been encountered. The 6500 IH Group completed test pits in the area outlined above and a large number of empty, crushed and partially intact drums were encountered, and excavated and staged on plastic. U.S. EPA's technical support unit conducted an electro magnetometer study in the south east corner of the site and in the north west corner of the site to clear the area for placement of the fixated solids. During the study another large pocket of drums was delineated running just south of the decontamination pad, under the site access road. The 6500 IH Group agreed to excavate and stage the drums. The 6500 IH Group has excavated all of the areas where metal anomalies were detected and staged the drums. The 6500 IH Group has not yet committed to remove the excavated drums. Disposal of the drums is

an issue that needs to be resolved quickly since the completion of the site is approaching quickly.


8.) When the CCCI site was surveyed at the start of the remediation, it was determined that the existing fence is not on the CCCI property lines. The 6500 IH Group has agreed that at the end of the remediation, the fence will be relocated within the property lines of the CCCI site. As per a request from Western Scrap Corporation, the access road fence shall remain upon completion of the project.

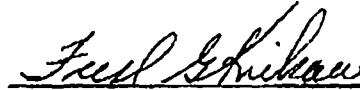
9.) A number of surficial crushed drums were found at the base of Tank 55. The 6500 IH Group has agreed to excavate the exposed drums and stage the drums until proper disposal can be arranged. These drums were excavated and placed on a plastic liner during the week of November 29, 1999.

10.) On October 5, 1999, KPR, on behalf of 6500 IH Group took a number of sludge samples from the pie shaped lagoon from areas and a treatability study was conducted with varying percentages of various alkaline stabilizing materials. U.S. EPA agrees that the treatability study performed by KPR fulfills the requirements in the work plan to perform a treatability study and that the "recipe" of 10 % lime kiln dust to 90 % sludge appears to satisfy the requirements of stabilizing the lagoon sludges. Upon the addition of these stabilizing agents, the 6500 IH Group shall periodically sample the fixated sludges to determine that the stabilized matrix is below RCRA regulatory levels for chromium (TCLP chromium 5mg/l) and hexavalent chrome levels of 200 ppm. Once results are received indicating that the stabilized material passes the above parameters than the material can be placed in the northwest corner of the site. In addition, stabilized material will be placed along the eastern perimeter of the site near the former API separator. Upon completion the stabilized material will be covered with clay and seeded to prevent erosion.

11.) U.S. EPA and the 6500 IH Group have been talking with the Gary Airport regarding the installation of a culvert pipe in the ditch across the tracks from the CCCI property. The 6500 Group is willing to provide a cash settlement to the airport for the installation of the culvert pipe in lieu of installing the hanging barrier which is required in the work plan. If the agreement can be worked out with all of the parties than an additional modification letter will be prepared by U.S. EPA to address this modification to the Work Plan.

The above items represent the modifications and changes made to the work plan as agreed to by U.S. EPA and the 6500 Industrial Highway Group. These modifications are incorporated into the Work Plan and the AOC. These items are agreed upon by the undersigned project managers for the Conservation Chemical site..

 Date: 4-13-00
Steven Faryan, On-Scene Coordinator
United States Environmental Protection Agency, Region 5

 Date: 5/26/00
Fred Krikau, Technical Committee Chairman
6500 Industrial Highway Group

cc: Tom Martin, U.S. EPA, Asst. Regional Counsel
Jim Harrington, Counsel, 6500 Industrial Highway Group



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 29 2001

REPLY TO THE ATTENTION OF

Conservation Chemical Company, Inc. Site
SE-5J

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

James T. Harrington, Esq.
Ross & Hardies
150 N. Michigan Ave., Suite 2500
Chicago, IL 60601
(For Gary Steel Supply Co)

RECEIVED

DEC 12 2001

J. T. HARRINGTON

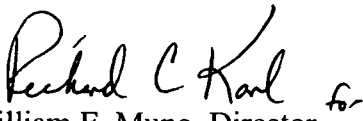
Re: Conservation Chemical Company, Inc. Site ("CCCI") - Amendment to Administrative Order
By Consent V-W-98-C-497.

Dear Sir or Madam:

Enclosed please find an executed copy of the Amendment to the Administrative Order by
Consent issued for this Site pursuant to Sections 106 and 122 of the Comprehensive
Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C.
§§9606 and 9622. Thank you for your cooperation in this matter.

If you have any questions regarding this Order, please contact Cynthia Kawakami, Associate
Regional Counsel, at (312) 886-0564 or Steven Faryan, On-Scene Coordinator, at (312) 353-
9351.

Sincerely yours,


William E. Muno, Director
Superfund Division

Enclosure

cc: State Agency Superfund Program Manager

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

IN THE MATTER OF:)	Docket No. V-W-98-C-497
CONSERVATION CHEMICAL CO.)	
OF ILLINOIS, INC.,)	AMENDMENT TO ADMINISTRATIVE
GARY, INDIANA)	ORDER BY CONSENT, PURSUANT TO
)	SECTIONS 106 AND 122(H) OF THE
)	COMPREHENSIVE ENVIRONMENTAL,
Respondents:)	COMPENSATION, AND LIABILITY
Listed in Attachment A)	ACT OF 1980, as amended, 42 U.S.C.
)	§§ 9606(a) and 9622(h);
)	

This is an amendment to the Administrative Order by Consent, Docket Number V-W-98-C-497, for the Conservation Chemical Company of Illinois, Inc. Site, ("the AOC"), that was entered into by the United States Environmental Protection Agency (U.S. EPA) and the Respondents, Lucent Technologies Inc. (for Western Electric, Teletype, and Bell Telephone Laboratories); Gary Steel Supply Company; Bethlehem Steel Corporation; LaSalle Steel Company; Allied Signal Inc. (for Universal Oil Products); K. A. Steel Chemicals, Inc.; Union Oil Company of California d/b/a/ UNOCAL; THE STEEL COMPANY f/k/a/ Chicago Steel & Pickling; Union Carbide Corporation; Ansul, Incorporated (for Ansul Co.); Motorola Inc.; PPG Industries, Inc.; Crucible Materials Corporation, Trent Tube Division; American Chain & Cable Co., Inc.; Navistar International Transportation Corp. (for International Harvester) ; and Russell, Burdsall & Ward n/k/a RB & W Corporation, (collectively referred to as "Respondents"), on February 4, 1999.

Under the terms of the original AOC, Respondents were required, *inter alia*, to assess, design, implement, and install a hanging containment barrier along the Southeast border of the Conservation Chemical Company of Illinois, Inc. (CCCI) property to contain the floating contaminated oily layer in the shallow groundwater aquifer that originated at the CCCI property. During Respondents' performance of the removal activities under the AOC, however, U.S. EPA determined that significant new information demonstrated that the installation of a hanging containment barrier would not effectively contain the floating contaminated oily layer, and that U.S. EPA needed to modify the response action. Subsequently, U.S. EPA and Respondents agreed that Respondents shall not install the hanging containment barrier on the CCCI property, and, instead, shall design and install a culvert pipe, below the surface, on the Gary Airport property that is located adjacent to the CCCI property. The culvert pipe will replace the open ditch on the Gary Airport property, and will be designed to prevent the floating contaminated oily layer from entering the pipe and contacting and mixing with the storm water and ground water which will flow through the pipe. Therefore, the installation of the culvert pipe will be designed to eliminate the ditch as a pathway for the contaminated oily layer to travel off-site and eventually to the Grand Calumet River. The culvert pipe will include engineering controls that

will be designed to prevent the floating contaminated oily layer from infiltrating the walls and joints of the culvert pipe. In addition, clay or bentonite “checks” and test points will be installed around the pipe, approximately every 200 feet, to minimize the likelihood of the floating contaminated oily layer moving along the outside of the pipe to a point of discharge on the Gary Airport property. Once the culvert pipe, engineering controls and clay or bentonite checks have been installed, the culvert pipe on the Gary Airport property will be covered and seeded.

THEREFORE, U.S. EPA and the Respondents agree that the original AOC and the Work Plan in this matter shall be amended and modified, except that no requirement under the original AOC and/or Work Plan shall be modified or amended unless specifically addressed in this Amended Administrative Order By Consent (Amended AOC) and/or the Amended Work Plan.

The original AOC is amended and modified as follows:

1. All Sections, Paragraphs, and Subparagraphs of the AOC that use the terms *AOC* and/or *Work Plan* shall be amended to include the terms *Amended AOC* and/or *Amended Work Plan*.
2. Section V, Paragraph 2, Subparagraph j of the AOC, shall be replaced by the following:

Assess, design, implement and install a culvert pipe, below the surface, on the Gary Airport property, that is located adjacent to the CCCI property. The culvert pipe will be installed in the area of the open ditch on the Gary Airport property, and will, essentially, replace the original ditch. The culvert pipe will be designed to prevent the floating contaminated oily layer from entering the pipe and contacting or mixing with the storm water and ground water which will flow through the pipe. The installation of the culvert pipe will be designed to eliminate the ditch as a pathway for the contaminated oily layer to travel off-site and eventually to the Grand Calumet River. The culvert pipe will include engineering controls that will be designed to prevent the floating contaminated oily layer from infiltrating the walls and joints of the culvert pipe. In addition, clay or bentonite “checks” and test points will be designed and installed around the pipe, approximately every 200 feet, to minimize the likelihood of the floating contaminated oily layer moving along the outside of the pipe to a point of discharge on the Gary Airport property. Once the culvert pipe, engineering controls and clay or bentonite checks have been installed, the culvert pipe on the Gary Airport property will be covered and seeded. Respondents shall ensure that the response actions described in this subparagraph shall comply with all applicable Federal Aviation Administration (FAA) rules and regulations. Respondents shall also secure all necessary approvals from the FAA and Gary Airport, prior to commencing the response actions described in this subparagraph.

3. Section V, Paragraph 2.1 of the AOC shall be amended to include the following:

Within 15 business days after the effective date of this Amended AOC, Respondents shall submit to U.S. EPA for approval, a draft Amended Work Plan and schedule for the design and implementation of the culvert pipe on the Gary Airport property that is located adjacent to the CCCI property. U.S. EPA shall approve, disapprove, require revisions to, or modify the draft Amended Work Plan and schedule, except that U.S. EPA cannot provide advice and/or approval for the Amended Work Plan and schedule with regard to any FAA technical and/or legal requirement that may apply to the response action that will occur on the Gary Airport property. Therefore, Respondents shall ensure that all applicable FAA technical and legal requirements have been followed in designing and implementing the response action under this Amended AOC and the approved Amended Work Plan. Respondents shall secure all required FAA and Gary Airport approvals prior to starting construction of the response action on the Gary Airport property.

If U.S. EPA requires revisions to the draft Amended Work Plan and/or schedule, Respondents shall submit a revised draft Amended Work Plan within 5 business days of receipt of U.S. EPA's notification of required revisions. Respondents shall implement the Amended Work Plan, as finally approved in writing by U.S. EPA, in accordance with the schedule approved by U.S. EPA. Once approved, or approved with modifications, the Amended Work Plan, the schedule, and any subsequent modifications shall be incorporated as an integral part of this Amended AOC, and shall be fully enforceable under this Amended AOC. Failure of the Respondents to properly implement all aspects of the Amended Work Plan approved by U.S. EPA shall be deemed to be a violation of the terms of this Amended AOC.

4. Following completion of the response action on the Gary Airport property under the Amended AOC and Amended Work Plan (*the project*), Respondents shall demonstrate in writing and certify that they have complied with all applicable FAA and Gary Airport technical and legal requirements for the design and implementation of the response action under this Amended AOC and Amended Work Plan. The certification shall consist of a statement and certification of a professional engineer, licensed in Indiana and hired by Respondents, that Respondents have authorized and directed him to sign the certification on their behalf that the project was constructed in accordance with the plans and specifications for the project, as certified by the Gary Airport Authority's Engineer. The certification shall attach the signed and sealed statement of a professional engineer, licensed in the State of Indiana, and employed by the Gary Airport Authority that the plans and specifications for the project are in accordance with all applicable FAA requirements and regulations and have been approved by the Gary Airport Authority and FAA.

5. This Amended AOC shall be effective upon receipt by Respondents of a copy of this Amended AOC, signed by the Director of the Superfund Division, U.S. EPA Region 5.
6. Each signatory to this Amended Administrative Order by Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Amendment and to bind such signatory and its successors and assigns, to this document.

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 8th day of October, 2001.

By Greg Vierkant
(Signature)

Greg Vierkant
(Typed/Printed Name of Signatory)

AT&T-Lucent Technologies
(Typed/Printed Name of Company/Organization)

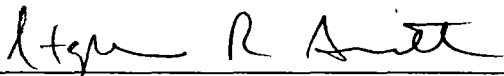
AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 8th day of October, 2001.

GARY STEEL SUPPLY COMPANY

By 
(Signature)

Stephen R. Smith
(Typed/Printed Name of Signatory)

GARY STEEL SUPPLY COMPANY
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 8th day of October, 2001.

By

(Signature)

David E. Tomlinson

(Typed/Printed Name of Signatory)

BETHLEHEM STEEL CORPORATION

(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 8th day of October, 2001.

By Marc J. Segalman
(Signature)

Marc J. Segalman , EVP
(Typed/Printed Name of Signatory)

LaSalle Steel Company
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 22nd day of October, 2001.

By Bert Ludy
(Signature)

Bernard Ludy
(Typed/Printed Name of Signatory)

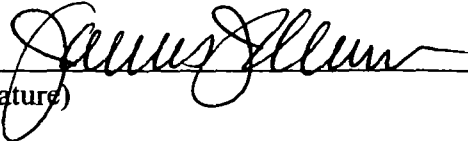
K.A. Steel Chemicals Inc.
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 4th day of October, 2001.

By 
(Signature)

James J. Dean

(Typed/Printed Name of Signatory)

Union Oil Company of California d/b/a UNOCAL

(Typed/Printed Name of Company/Organization)



AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 18 day of October, 2001.

By A. C. Macaulay
(Signature)

DC Macaulay
(Typed/Printed Name of Signatory)

Union Carbide Corporation
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 17 day of October, 2001.

By Peter L. Premister
(Signature)

PETER L. PREMISTER
(Typed/Printed Name of Signatory)

Ansul Co.
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 10th day of OCTOBER, 2001.

By R. A. Bertelson
(Signature)

ROGER A. BERTELSON
(Typed/Printed Name of Signatory)

MOTOROLA INC.
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 15th day of October, 2001.

By Michael A. Ludlow
(Signature)

Michael A. Ludlow
(Typed/Printed Name of Signatory)

Vice President, Industrial Ctg. (PPG)
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 11th day of October, 2001.

By Robert J Taggart
(Signature)

ROBERT J TAGGART
(Typed/Printed Name of Signatory)

Crucible Materials Corporation
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 8th day of October, 2001.

By 
(Signature)

Robert M. Miller , Secretary
(Typed/Printed Name of Signatory)

American Chain & Cable Co., Inc.
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 9th day of October, 2001.

By Ronald J. Cozcan
(Signature)

Ronald J. Cozcan
(Typed/Printed Name of Signatory)

RB&W Corporation n/k/a RB&W Manufacturing LLC
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 22 day of October, 2001.

By 
(Signature)

DAVID A. PIECH, SENIOR COUNSEL
(Typed/Printed Name of Signatory)

INTERNATIONAL TRUCK AND ENGINE CORPORATION
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC., GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

SIGNATORIES

Each undersigned representative of a signatory to this Amended Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory and its successors and assigns, to this document.

Agreed this 5th day of November, 2001.

By Robert J. Ford
(Signature)

Robert J. Ford, Director Remediation & Evaluation Services
(Typed/Printed Name of Signatory)

Honeywell International Inc.
(Typed/Printed Name of Company/Organization)

AMENDED ADMINISTRATIVE ORDER BY CONSENT
IN THE MATTER OF:
CONSERVATION CHEMICAL COMPANY
OF ILLINOIS, INC.
GARY, INDIANA
DOCKET NUMBER: V-W-98-C-497

IT IS SO ORDERED AND AGREED

BY: Richard C. Karl for
William E. Muno, Director
Superfund Division
United States Environmental Protection Agency
Region 5

DATE: 11-29-01

ATTACHMENT A

Amendment to Administrative Order By Consent
Conservation Chemical Company of Illinois, Inc.
Gary, Indiana
Docket No. V-W-98-C-497

List of Respondents

1. AT&T - Lucent Technologies (Western Electric/Teletype/Bell Telephone Laboratories) ✓
2. Gary Steel Supply Company ✓
3. Bethlehem Steel Corporation
4. LaSalle Steel Company ✓
5. Honeywell International Inc. (Allied Signal/Universal Oil Products) ✓
6. K.A. Steel Chemicals Inc. ✓
7. Union Oil Company of California d/b/a/ UNOCAL ✓
8. Union Carbide Corporation
9. Ansul Company ✓
10. Motorola Inc. ✓
11. Industrial Ctgs. (PPG) ✓
12. Crucible Materials Corporation ✓
13. American Chain & Cable Co., Inc. ✓
14. International Truck and Engine Corporation (International Harvester) ✓
15. RB&W Corporation n/k/a/ RB&W Manufacturing L.L.C.

APPENDIX B

TANK INVENTORY

CCCI SITE
GARY, INDIANA

Tank I.D. No.	Contents	Quantity of Contents	Disposal Site Contents	Disposal Site Tank
1	Hazardous Liquid (Cr/Cd)	• 90 gallons	Clean Harbors (Profile No. CH144191)	Newton County Landfill
2	Empty	----	----	Bethlehem Steel
3	PCB Liquid	• 12 drums (660 gallons)	Clean Harbors (Profile No. CH144195)	Bethlehem Steel
4	Hazardous Liquid (Cr/Cd)	• 65 gallons	Clean Harbors (Profile No. CH144191)	Bethlehem Steel
5	Hazardous Liquid (Cr/Cd)	• 90 gallons	Clean Harbors (Profile No. CH144191)	Bethlehem Steel
6	Hazardous Liquid (Cr/Cd)	• 60 gallons	Clean Harbors (Profile No. CH144191)	Bethlehem Steel
7	Hazardous Liquid (Cr/Cd)	• 350 gallons	Clean Harbors (Profile No. CH144191)	Newton County Landfill
8	Hazardous Liquid (Cr/Cd)	• 450 gallons	Clean Harbors (Profile No. CH144191)	Bethlehem Steel
9	Empty	----	----	Bethlehem Steel
10	Hazardous Liquid (Cr/Cd)	• 150 gallons	Clean Harbors (Profile No. CH144191)	Newton County Landfill

11	Empty	----	----	Bethlehem Steel
12	Non-hazardous oil	• 1 drum (85 gallons)	Clean Harbors (Profile No. CH144199)	Bethlehem Steel
13	Empty	----	----	Newton County Landfill
14	Empty	----	----	Bethlehem Steel
15	Non-hazardous oily solid	• 7 drums (385 gallons)	Clean Harbors (Profile No. CH144196)	Bethlehem Steel
16	Empty	----	----	Newton County Landfill
17	Empty	----	----	Newton County Landfill
18	Empty	----	----	Bethlehem Steel
19	Hazardous solid (lead/chlordane)	• 3 drums (165 gallons)	Clean Harbors (Profile No. CH144172)	Newton County Landfill
20	Empty	----	----	Bethlehem Steel
21	Empty	----	----	Bethlehem Steel
22	Empty	----	----	Bethlehem Steel
23	Empty	----	----	Newton County Landfill
24	Non-hazardous sludge	• 1 drum (55 gallons)	Clean Harbors (Profile No. CH189751)	Gaby Iron & Steel
25	Empty	----	----	Newton County Landfill
26	Hazardous Corrosive Liquid (Acid)	• 26,400 gallons • 1 drum (45 gallons)	Clean Harbors (Profile No. CH144189)	Newton County Landfill
27	Hazardous Corrosive Liquid (Acid)	• 5,200 gallons • 1 drum (40 gallons)	Clean Harbors (Profile No. CH144189)	Newton County Landfill

28	Hazardous Corrosive Liquid (Alkaline)	<ul style="list-style-type: none"> • 31,163 gallons • 30 drums (1,650 gallons) • 1 drum (30 gallons) 	Clean Harbors (Profile No. CH144190)	Newton County Landfill
29	Empty	----	----	Newton County Landfill
30	Hazardous Corrosive Liquid (Acid)	<ul style="list-style-type: none"> • 800 gallons 	Clean Harbors (Profile No. CH144188)	Newton County Landfill
31	Hazardous Corrosive Liquid (Acid)	<ul style="list-style-type: none"> • 11,700 gallons • 6 drums (330 gallons) 	Clean Harbors (Profile No. CH144189)	Newton County Landfill
32	Hazardous Corrosive Liquid (Caustic)	<ul style="list-style-type: none"> • 3,400 gallons • 8 drums (440 gallons) • 1 drum (25 gallons) 	Clean Harbors (Profile No. CH144194)	Newton County Landfill
33	Empty	----	----	Bethlehem Steel
34	Empty	----	----	Newton County Landfill
35	Empty	----	----	Newton County Landfill
36	Empty	----	----	Newton County Landfill
37	Empty	----	----	Bethlehem Steel
38	Non-hazardous refractory brick	<ul style="list-style-type: none"> • 29.33 tons (includes Tank Nos. 39 and 42) 	Newton County Landfill (Approval No. NC993586)	Newton County Landfill
39	Non-hazardous refractory brick	<ul style="list-style-type: none"> • See Tank No. 38 	Newton County Landfill (Approval No. NC993586)	Newton County Landfill
40	Hazardous Corrosive Liquid (Acid)	<ul style="list-style-type: none"> • 3,800 gallons • 7 drums (385 gallons) 	Clean Harbors (Profile No. CH144188)	Newton County Landfill
41	Hazardous Solid (Ferric chloride)	<ul style="list-style-type: none"> • 3 cubic yards 	Clean Harbors (Profile No. CH144193)	Newton County Landfill

42	Hazardous Corrosive Liquid (Acid)	<ul style="list-style-type: none"> • 3,500 gallons • 19 drums (1,045 gallons) 	Clean Harbors (Profile No. CH144189)	Newton County Landfill
	Non-hazardous refractory brick	<ul style="list-style-type: none"> • See Tank No. 38 	Newton County Landfill (Approval No. NC993586)	Newton County Landfill
43	Hazardous Corrosive Liquid (Acid)	<ul style="list-style-type: none"> • 200 gallons 	Clean Harbors (Profile No. CH144189)	Fiberglass/debris to CID-RDF landfill
44	Empty	----	----	Newton County Landfill
45	Hazardous Corrosive Liquid (Acid)	<ul style="list-style-type: none"> • 750 gallons • 2 drums (110 gallons) 	Clean Harbors (Profile No. CH144189)	Newton County Landfill
46	Empty	----	----	Newton County Landfill
47	Empty	----	----	Bethlehem Steel
48	Empty	----	----	Newton County Landfill
49	Empty	----	----	Newton County Landfill
50	Empty	----	----	Bethlehem Steel
51	Hazardous waste solid (methylene chloride, n-butanol, Cr, Cd)	<ul style="list-style-type: none"> • 24 cubic yards • 1,600 gallons 	Clean Harbors (Profile No. CH144191)	Bethlehem Steel
52	Hazardous waste solid (TCE)	<ul style="list-style-type: none"> • 25.11 tons 	Michigan Disposal (Approval No. 092599MJ)	Newton County Landfill
53	Empty	----	----	Bethlehem Steel
54	Empty	----	----	Bethlehem Steel
55	Non-hazardous petroleum contaminated soil	<ul style="list-style-type: none"> • 472.39 tons 	CID-RDF #4 (Profile No. BG009)	Bethlehem Steel
56	Empty	----	----	Bethlehem Steel

57	Empty	----	----	Fiberglass/debris to CID-RDF landfill
58	Hazardous Corrosive Liquid (Alkaline)	<ul style="list-style-type: none"> • 1,975 gallons • 10 drums (550 gallons) 	Clean Harbors (Profile No. CH144190)	Bethlehem Steel
59	Empty	----	----	Bethlehem Steel



3131

PLEASE TYPE

(Form designed for use on elite (12-pitch) typewriter)

EPA Form 8700-22 (Rev. 6-89)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No		2 Page 1 of 1		Information in the shaded areas is not required by Federal law, but is required by Illinois law	
3. Generator's Name and Mailing Address 6500 Industrial Highway Group 6499 Industrial Highway Gary, IN 46406		Location if Different - KPR - 410 PLAZA DR. #106 WESTMONT, IL 60559		IND 040888992		0001		A. Illinois Manifest Document Number IL 8493061 FEE PAID IF APPLICABLE	
4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS 800-645-8265		5. Transporter 1 Company Name Clean Harbors Env Service Inc		6. US EPA ID Number MAD039322250		C. Transporter's ID Number UP0018014304		B. Generator's IL ID Number	
7. Transporter 2 Company Name		8. US EPA ID Number		E. Transporter's ID Number		D. Transporter's Phone 815-877-1800		F. Transporter's Phone ()	
9. Designated Facility Name and Site Address Clean Harbors Services Inc 11800 South Stony Island Ave Chicago, IL 60617		10. US EPA ID Number ILD 000608471		G. Facility's IL ID Number 0316000051		H. Facility's Phone (773) 646-6202			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)				12. Containers		13. Total Quantity		14. Unit Wt/Vol	
a. WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulfuric Acid), 8, UN3264, II				No. Type		DO 1 TT 055004		Waste No. EPA HW Number K 062	
b.								EPA HW Number	
c.								EPA HW Number	
d.								EPA HW Number	
J. Additional Description for Materials Listed Above 11a CH144189B D002, D007, D008				K. Handling Codes for Wastes Listed Above In Item #14 G = Gallons					
15. Special Handling Instructions and Additional Information TOTAL QUANTITY IS ESTIMATED - PLEASE CONTACT KPR WILL MEASURE VOLUME (ACTUAL) wo# NB189251									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name DAVID PYLES - Agent For 6500 Ind. Hwy. Gary				Signature [Signature]				Date 08/09/99	
17. Transporter 1 Acknowledgement of Receipt of Materials				Printed/Typed Name Walter K. Kuehn				Signature [Signature]	
18. Transporter 2 Acknowledgement of Receipt of Materials				Printed/Typed Name				Signature	
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.									
Printed/Typed Name Jesse Arzuffo				Signature [Signature]				Date 08/09/99	

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed \$25,000 per day of violation. Falsification of this information may result in a fine up to \$50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

Clean Harbors has appropriate permits for & will accept the waste the generator is shipping.

COPY 1. TSD MAIL TO GENERATOR

THE HAZARDOUS WASTES IDENTIFIED ON THE HAZARDOUS WASTE MANIFEST IDENTIFIED ABOVE AND BEARING THE EPA HAZARDOUS WASTE CODES LISTED BELOW ARE RESTRICTED WASTES WHICH ARE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT UNDER THE LAND DISPOSAL RESTRICTIONS, 40 CFR PART 268 AND RCRA SECTION 3004(D). IN ACCORDANCE WITH 40 CFR 268.7(a), THE EPA WASTE CODE, WASTE SUBCATEGORY, AND TREATABILITY GROUPS, AS APPLICABLE, ARE INCLUDED BELOW.

INSTRUCTIONS -- COMPLETE ALL SECTIONS. REFER TO PAGE 3 OF THIS FORM FOR KEY TERMS/DEFINITIONS.

- Column 1 - Line Item: Enter the manifest line item number (e.g., 11a) that corresponds to the waste code(s).
Column 2 - Waste Codes/Subcategory: Check off all applicable waste codes. For D001 through D043, also check applicable subcategory; for F001 through F005, check applicable constituents.
Column 3 - Wastewater/Non-wastewater: Check off "WW" for wastewater and "Non-WW" for non-wastewaters.
Column 4 - LDR Handling Code: Circle the appropriate handling code, as follows:
- The waste is a characteristic hazardous waste D001, D002, D003, D004-D011, or D018-43 which is intended for treatment/disposal in a CWA system, CWA-equivalent system, or Class I SDWA system. Underlying Hazardous Constituents (UHC's) are NOT required to be identified.
 - The waste is a characteristic hazardous waste D001 High TOC Ignitable Liquids Subcategory (i.e., greater than or equal to 10% TOC). Pursuant to 40 CFR 268.40, the waste must be treated using organic recovery (RORGs) or combustion (CMBST) technology. UHC's are NOT required to be identified.
 - The waste is a characteristic hazardous waste D001 (other than High TOC Ignitable Liquids), D002, D003 Explosive, Water Reactive or Other Reactive subcategory, D004-D011, D012-17 non-wastewater, or D018-43 which is intended for treatment/disposal in a non-CWA system, non-CWA-equivalent system, or non-Class I SDWA system located in the United States. All UHC's which are reasonably expected to be present must be identified, except for D001 waste that is intended to be treated using organic recovery (RORGs) or combustion (CMBST) technologies. Identify UHC's by completing Sections I and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
 - The waste is a characteristic (i.e., D-code) or listed (i.e., F-, K-, U-, or P-code) hazardous waste which is intended for export and treatment/disposal at a facility located outside the United States. LDR treatment standards do not apply to hazardous waste treated/disposed in a foreign country, and per USEPA guidance, the identification of UHC's (if applicable) is not required for hazardous waste that is intended to be exported. Note however that if the exported waste is subsequently returned for treatment/disposal in the United States, all applicable LDR regulations would apply and a revised LDR notification would be required.
 - The waste meets the definition of hazardous debris pursuant to 40 CFR 268.2(h) and is intended for treatment/disposal in compliance with the alternate debris treatment technologies of 40 CFR 268.45. In accordance with the requirements of 40 CFR 268.7(a)(1)(iv)(A): (1) "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45"; and (2) the contaminants subject to treatment (CSTT's) must be identified as part of this notification. Identify CSTT's by completing Sections III and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
 - The waste is a characteristic waste D003 Reactive Sulfide, Reactive Cyanide, or Unexploded Ordnance subcategory, a characteristic waste D012-17 wastewater, or a listed (i.e., F-, K-, U-, or P-code) hazardous waste. UHC's are NOT required to be identified.
 - The waste is a lab pack that is intended for incineration using the alternative lab pack treatment standard under 40 CFR 268.42(c). UHC's are NOT required to be identified; however, the generator must complete and attach the lab pack certification statement on CHI Form LDR-LP. Note that in accordance with 40 CFR Part 268 Appendix IV, lab packs which contain waste codes D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, and U151 are not eligible for alternative lab pack treatment standard.

*** NOTE: IF THE WASTE IS A SOIL CONTAMINATED WITH A LISTED OR CHARACTERISTIC WASTE AND THE GENERATOR WANTS TO USE THE ALTERNATE TREATMENT STANDARD FOR SOILS, CONTACT CORPORATE COMPLIANCE FOR THE APPROPRIATE LDR NOTIFICATION FORM.

SECTION I. CHARACTERISTIC WASTES D001 THROUGH D043

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	<input type="checkbox"/> D001 Ignitables, except High TOC subcategory	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D001 High TOC Ignitable Liquids Subcategory (Greater than or equal to 10% TOC)	<input type="checkbox"/> Non-WW only	1A 3 6
<u>11A</u>	<input checked="" type="checkbox"/> D002 Corrosives	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	<u>1</u> 2 3 4 6
	<input type="checkbox"/> D003		
	<input type="checkbox"/> Reactive Sulfide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Reactive Cyanide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Explosive, per 261.23(a)(6), (7), & (8)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Water Reactive, per 261.23(a)(2), (3) & (4)	<input type="checkbox"/> Non-WW only	1 2 3 4 6
	<input type="checkbox"/> Other Reactive, per 261.23(a)(1)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Unexploded Ordnance, Emergency Response	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> D004 Arsenic	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D005 Barium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D006		
	<input type="checkbox"/> Cadmium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Cadmium Containing Batteries	<input type="checkbox"/> Non-WW only	2 3 6
<u>11A</u>	<input checked="" type="checkbox"/> D007 Chromium	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	<u>1</u> 2 3 4 6
	<input type="checkbox"/> D008		
	<input type="checkbox"/> Lead	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	<u>1</u> 2 3 4 6
	<input type="checkbox"/> Lead Acid Batteries	<input type="checkbox"/> Non-WW only	2 3 6

SECTION I. CHARACTERISTIC WASTES D001-43 (CONTINUED)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / NAME	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
<input type="checkbox"/> D009	<input type="checkbox"/> Low Mercury, less than 260 mg/kg Mercury	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4
<input type="checkbox"/> D010	<input type="checkbox"/> High Mercury Organic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
<input type="checkbox"/> D011	<input type="checkbox"/> High Mercury Inorganic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
<input type="checkbox"/> D012	<input type="checkbox"/> Selenium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D013	<input type="checkbox"/> Silver	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D014	<input type="checkbox"/> Endrin	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D015	<input type="checkbox"/> Lindane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D016	<input type="checkbox"/> Methoxychlor	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D017	<input type="checkbox"/> Toxaphene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D018	<input type="checkbox"/> 2,4-D	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D019	<input type="checkbox"/> 2,4,5-TP (Silvex)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D020	<input type="checkbox"/> Benzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D021	<input type="checkbox"/> Carbon tetrachloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D022	<input type="checkbox"/> Chlordane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D023	<input type="checkbox"/> Chlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D024	<input type="checkbox"/> Chloroform	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D025	<input type="checkbox"/> o-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D026	<input type="checkbox"/> m-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D027	<input type="checkbox"/> p-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D028	<input type="checkbox"/> Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D029	<input type="checkbox"/> 1,4-Dichlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D030	<input type="checkbox"/> 1,2-Dichloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D031	<input type="checkbox"/> 1,1-Dichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D032	<input type="checkbox"/> 2,4-Dinitrotoluene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D033	<input type="checkbox"/> Heptachlor (and its epoxide)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D034	<input type="checkbox"/> Hexachlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D035	<input type="checkbox"/> Hexachlorobutadiene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D036	<input type="checkbox"/> Hexachloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D037	<input type="checkbox"/> Methyl ethyl ketone	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D038	<input type="checkbox"/> Nitrobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D039	<input type="checkbox"/> Pentachlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D040	<input type="checkbox"/> Pyridine	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D041	<input type="checkbox"/> Tetrachloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D042	<input type="checkbox"/> Trichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D043	<input type="checkbox"/> 2,4,5-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> 2,4,6-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Vinyl Chloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6

SECTION II. SPENT SOLVENT WASTES F001 THROUGH F005

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / CONSTITUENTS	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	[] F001 [] F002 [] F003 [] F004 [] F005 [] WW [] Non-WW		3 4 5 6
_____ [] 1. ALL F001-F005	_____ [] 12. Cyclohexanone	_____ [] 25. Pyridine	
_____ [] 2. Acetone	_____ [] 13. o-Dichlorobenzene	_____ [] 26. Tetrachloroethylene	
_____ [] 3. Benzene	_____ [] 14. 2-Ethoxyethanol (F005 only)	_____ [] 27. Toluene	
_____ [] 4. n-Butyl alcohol	_____ [] 15. Ethyl acetate	_____ [] 28. 1,1,1-Trichloroethane	
_____ [] 5. Carbon disulfide	_____ [] 16. Ethyl benzene	_____ [] 29. 1,1,2-Trichloroethane	
_____ [] 6. Carbon tetrachloride	_____ [] 17. Ethyl ether	_____ [] 30. Trichloroethylene	
_____ [] 7. Chlorobenzene	_____ [] 18. Isobutyl alcohol	_____ [] 31. 1,1,2-Trichloro-1,2,2-trifluoroethane	
_____ [] 8. o-Cresol	_____ [] 19. Methanol	_____ [] 32. Trichloromonofluoromethane	
_____ [] 9. m-Cresol (difficult to distinguish from p-cresol)	_____ [] 20. Methylene chloride	_____ [] 33. Xylene - mixed isomers (sum of o-, m-, and p-xylene)	
_____ [] 10. p-Cresol (difficult to distinguish from m-cresol)	_____ [] 21. Methyl ethyl ketone		
_____ [] 11. Cresol - mixed isomers (sum of o-, m- and p-cresol)	_____ [] 22. Methyl isobutyl ketone		
	_____ [] 23. Nitrobenzene		
	_____ [] 24. 2-Nitropropane (F005 only)		

TL 8493061

SECTION III. CALIFORNIA LIST WASTES

COLUMN 1:
LINE ITEM
SEE MANIFEST

COLUMN 2:
WASTE CODE / SUBCATEGORY

COLUMN 3:
WASTEWATER/
NON-WASTEWATER

COLUMN 4:
HANDLING CODE

_____ Hazardous waste containing one or more of the following ☐ WW ☐ Non-WW 1 2 3 4 5 6
California List constituents:

☐ ALL CALIFORNIA LIST CONSTITUENTS
☐ Liquids with nickel greater than or equal to 134 mg/l
☐ Liquids with thallium greater than or equal to 130 mg/l
☐ Liquids with PCB's > or = 50 ppm
☐ Waste containing HOC's > or = 1,000 mg/kg

SECTION IV. OTHER LISTED WASTES (F006-12, F019-F028, F037-38, F039, K-, U-, AND P-CODES)

COLUMN 1:
LINE ITEM
SEE MANIFEST

COLUMN 2:
WASTE CODE / SUBCATEGORY

COLUMN 3:
WASTEWATER/
NON-WASTEWATER

COLUMN 4:
HANDLING CODE

<u>IIA</u>	<u>K062</u>	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	3 4 <u>5</u> 6
_____	_____	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
_____	_____	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
_____	_____	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
_____	_____	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6

☐ CHECK HERE IF ADDITIONAL LISTED WASTE CODES ARE PRESENT. COMPLETE AND ATTACH LDR-1 CONTINUATION SHEET.
☐ CHECK HERE IF WASTE CODE F039 (MULTISOURCE LEACHATE) IS PRESENT. IDENTIFY F039 CONSTITUENTS BY COMPLETING SECTIONS II AND IV OF CHI FORM LDR-1 ADDENDUM AND ATTACH COMPLETED ADDENDUM TO THIS FORM.

SECTION V. CONTACT NAME AND DATE

Print Name:

David Rybo Agent in Charge

Date:

8-9-99

KEY TERMS/DEFINITIONS

CLASS I SDWA SYSTEM means a Class I deep well facility regulated under the Safe Drinking Water Act (SDWA).

CWA SYSTEM means a centralized wastewater treatment facility discharging under a Clean Water Act (CWA) permit. For example, a CWA facility would treat organic or inorganic aqueous wastes and discharge the treated effluent to the local sewer system. Examples of CWA treatment systems owned and operated by Clean Harbors include the wastewater treatment operations at Baltimore (including the CES system), Bristol, Chicago, Cincinnati and Cleveland.

CWA-EQUIVALENT SYSTEM means a "zero discharge system" that engages in "CWA-equivalent" treatment before land disposal. Zero-discharge facilities treat hazardous wastes using "CWA-equivalent" treatment methods, but do not discharge the treatment effluent to a sewer or water body (e.g., spray irrigation land farm). "CWA-equivalent" treatment methods means biological treatment for organics, alkaline chlorination, or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

HIGH TOC IGNITABLE LIQUIDS SUBCATEGORY means an ignitable liquid hazardous waste (waste code D001) which contains greater than or equal to 10% total organic carbon (TOC). Pursuant to 40 CFR 268.40, such wastes must be treated using organic recovery (RORGs) or combustion (CMBST) technology. Examples of RORGs technologies include the CES unit at Clean Harbors of Baltimore. Examples of CMBST technologies include hazardous waste fuel blending and subsequent reuse at a cement kiln, or destruction at a RCRA incinerator.

WASTEWATERS are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). [See 40 CFR 268.2(f)]



PLEASE TYPE

(Form designed for use on elite (12-pitch) typewriter.)

EPA Form 8700-22 (Rev. 6-89)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2 Page 1 of 1	Information in the shaded areas is not required by Federal law, but is required by Illinois law.
3. Generator Name and Address 6500 Industrial Highway Group 414 Plaza Drive Suite 106 Westmont, IL 60559		Location If Different 6499 Industrial Highway Gary, IN 46406		A. Illinois Manifest Document Number IL 8493075 FEE PAID IF APPLICABLE	
4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS 800-645-8265		6. US EPA ID Number MAD 039322250		B. Generator's IL ID Number 414108822	
5. Transporter 1 Company Name Clean Harbors Env. Services Inc.		8. US EPA ID Number		C. Transporter's ID Number UPW018074304	
7. Transporter 2 Company Name		10. US EPA ID Number		D. Transporter's Phone (781) 849-1800	
9. Designated Facility Name and Site Address Clean Harbors Services Inc 11800 South Stony Island Ave Chicago, IL 60617		11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		E. Transporter's ID Number	
				F. Transporter's Phone ()	
				G. Facility's IL ID Number 031160000511	
				H. Facility's Phone (773) 646-6202	
		12. Containers		13. Total Quantity	14. Unit Wt/Vol
		No. Type			
a. WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulfuric Acid), 8, UN3264, II		001 TT 05.00.0 G			
b.					
c.					
d.					
J. Additional Description for Materials Listed Above 11a CH144189B D002, D007, D008		K. Handling Codes for Wastes Listed Above In Item #14 G = Gallons			
15. Special Handling Instructions and Additional Information wo# NB189251					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name David Riley - Agent For Clean Harbors Industrial Hwy. Group		Signature [Signature]		Date 08/10/99	
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name William L. Gaines		Signature William L. Gaines	
		Signature		Date 08/10/99	
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature	
		Signature		Date	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.					
Printed/Typed Name Jesse E. Bagnato		Signature [Signature]		Date 08/10/99	

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency Failure to provide this information may result in a civil penalty against the owner or operator not to exceed \$25,000 per day of violation Falsification of this information may result in a fine up to \$50,000 per day of violation and imprisonment up to 5 years This form has been approved by the Forms Management Center.

Clean Harbors has appropriate permits for & will accept the waste the generator is shipping.

COPY 1. TSD MAIL TO GENERATOR

IL 8493075

THE HAZARDOUS WASTES IDENTIFIED ON THE HAZARDOUS WASTE MANIFEST IDENTIFIED ABOVE AND BEARING THE EPA HAZARDOUS WASTE CODES LISTED BELOW ARE RESTRICTED WASTES WHICH ARE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT UNDER THE LAND DISPOSAL RESTRICTIONS, 40 CFR PART 268 AND RCRA SECTION 3004(D). IN ACCORDANCE WITH 40 CFR 268.7(a), THE EPA WASTE CODE, WASTE SUBCATEGORY, AND TREATABILITY GROUPS, AS APPLICABLE, ARE INCLUDED BELOW.

INSTRUCTIONS -- COMPLETE ALL SECTIONS. REFER TO PAGE 3 OF THIS FORM FOR KEY TERMS/DEFINITIONS.

- Column 1 - Line Item: Enter the manifest line item number (e.g., 11a) that corresponds to the waste code(s).
Column 2 - Waste Codes/Subcategory: Check off all applicable waste codes. For D001 through D043, also check applicable subcategory; for F001 through F005, check applicable constituents.
Column 3 - Wastewater/Non-wastewater: Check off "WW" for wastewater and "Non-WW" for non-wastewaters.
Column 4 - LDR Handling Code: Circle the appropriate handling code, as follows:
- The waste is a characteristic hazardous waste D001, D002, D003, D004-D011, or D018-43 which is intended for treatment/disposal in a CWA system, CWA-equivalent system, or Class I SDWA system. Underlying Hazardous Constituents (UHC's) are NOT required to be identified.
 - The waste is a characteristic hazardous waste D001 High TOC Ignitable Liquids Subcategory (i.e., greater than or equal to 10% TOC). Pursuant to 40 CFR 268.40, the waste must be treated using organic recovery (RORGs) or combustion (CMBST) technology. UHC's are NOT required to be identified.
 - The waste is a characteristic hazardous waste D001 (other than High TOC Ignitable Liquids), D002, D003 Explosive, Water Reactive or Other Reactive subcategory, D004-D011, D012-17 non-wastewater, or D018-43 which is intended for treatment/disposal in a non-CWA system, non-CWA-equivalent system, or non-Class I SDWA system located in the United States. All UHC's which are reasonably expected to be present must be identified, except for D001 waste that is intended to be treated using organic recovery (RORGs) or combustion (CMBST) technologies. Identify UHC's by completing Sections I and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
 - The waste is a characteristic (i.e., D-code) or listed (i.e., F-, K-, U-, or P-code) hazardous waste which is intended for export and treatment/disposal at a facility located outside the United States. LDR treatment standards do not apply to hazardous waste treated/disposed in a foreign country, and per USEPA guidance, the identification of UHC's (if applicable) is not required for hazardous waste that is intended to be exported. Note however that if the exported waste is subsequently returned for treatment/disposal in the United States, all applicable LDR regulations would apply and a revised LDR notification would be required.
 - The waste meets the definition of hazardous debris pursuant to 40 CFR 268.2(h) and is intended for treatment/disposal in compliance with the alternate debris treatment technologies of 40 CFR 268.45. In accordance with the requirements of 40 CFR 268.7(a)(1)(iv)(A): (1) "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45"; and (2) the contaminants subject to treatment (CSTT's) must be identified as part of this notification. Identify CSTT's by completing Sections III and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
 - The waste is a characteristic waste D003 Reactive Sulfide, Reactive Cyanide, or Unexploded Ordnance subcategory, a characteristic waste D012-17 wastewater, or a listed (i.e., F-, K-, U-, or P-code) hazardous waste. UHC's are NOT required to be identified.
 - The waste is a lab pack that is intended for incineration using the alternative lab pack treatment standard under 40 CFR 268.42(c). UHC's are NOT required to be identified; however, the generator must complete and attach the lab pack certification statement on CHI Form LDR-LP. Note that in accordance with 40 CFR Part 268 Appendix IV, lab packs which contain waste codes D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, and U151 are not eligible for alternative lab pack treatment standard.

*** **NOTE: IF THE WASTE IS A SOIL CONTAMINATED WITH A LISTED OR CHARACTERISTIC WASTE AND THE GENERATOR WANTS TO USE THE ALTERNATE TREATMENT STANDARD FOR SOILS, CONTACT CORPORATE COMPLIANCE FOR THE APPROPRIATE LDR NOTIFICATION FORM.**

SECTION I. CHARACTERISTIC WASTES D001 THROUGH D043

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	<input type="checkbox"/> D001 Ignitables, except High TOC subcategory	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D001 High TOC Ignitable Liquids Subcategory (Greater than or equal to 10% TOC)	<input type="checkbox"/> Non-WW only	1A 3 6
11A	<input checked="" type="checkbox"/> D002 Corrosives	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D003		
	<input type="checkbox"/> Reactive Sulfide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Reactive Cyanide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Explosive, per 261.23(a)(6), (7) & (8)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Water Reactive, per 261.23(a)(2), (3) & (4)	<input type="checkbox"/> Non-WW only	1 2 3 4 6
	<input type="checkbox"/> Other Reactive, per 261.23(a)(1)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Unexploded Ordnance, Emergency Response	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> D004 Arsenic	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D005 Barium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D006		
	<input type="checkbox"/> Cadmium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Cadmium Containing Batteries	<input type="checkbox"/> Non-WW only	2 3 6
11A	<input checked="" type="checkbox"/> D007 Chromium	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
	<input checked="" type="checkbox"/> D008		
	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Lead Acid Batteries	<input type="checkbox"/> Non-WW only	2 3 6

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SECTION I. CHARACTERISTIC WASTES D001-43 (CONTINUED)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / NAME	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
<input type="checkbox"/> D009	<input type="checkbox"/> Low Mercury, less than 260 mg/kg Mercury	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4
<input type="checkbox"/> D010	<input type="checkbox"/> High Mercury Organic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
<input type="checkbox"/> D011	<input type="checkbox"/> High Mercury Inorganic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
<input type="checkbox"/> D012	<input type="checkbox"/> Selenium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D013	<input type="checkbox"/> Silver	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D014	<input type="checkbox"/> Endrin	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D015	<input type="checkbox"/> Lindane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D016	<input type="checkbox"/> Methoxychlor	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D017	<input type="checkbox"/> Toxaphene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D018	<input type="checkbox"/> 2,4-D	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D019	<input type="checkbox"/> 2,4,5-TP (Silvex)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D020	<input type="checkbox"/> Benzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D021	<input type="checkbox"/> Carbon tetrachloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D022	<input type="checkbox"/> Chlordane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D023	<input type="checkbox"/> Chlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D024	<input type="checkbox"/> Chloroform	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D025	<input type="checkbox"/> o-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D026	<input type="checkbox"/> m-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D027	<input type="checkbox"/> p-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D028	<input type="checkbox"/> Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D029	<input type="checkbox"/> 1,4-Dichlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D030	<input type="checkbox"/> 1,2-Dichloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D031	<input type="checkbox"/> 1,1-Dichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D032	<input type="checkbox"/> 2,4-Dinitrotoluene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D033	<input type="checkbox"/> Heptachlor (and its epoxide)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D034	<input type="checkbox"/> Hexachlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D035	<input type="checkbox"/> Hexachlorobutadiene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D036	<input type="checkbox"/> Hexachloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D037	<input type="checkbox"/> Methyl ethyl ketone	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D038	<input type="checkbox"/> Nitrobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D039	<input type="checkbox"/> Pentachlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D040	<input type="checkbox"/> Pyridine	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D041	<input type="checkbox"/> Tetrachloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D042	<input type="checkbox"/> Trichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D043	<input type="checkbox"/> 2,4,5-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> 2,4,6-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Vinyl Chloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6

SECTION II. SPENT SOLVENT WASTES F001 THROUGH F005

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / CONSTITUENTS	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
<input type="checkbox"/> F001	<input type="checkbox"/> F002	<input type="checkbox"/> F003	<input type="checkbox"/> F004
<input type="checkbox"/> F005	<input type="checkbox"/> WW	<input type="checkbox"/> Non-WW	3 4 5 6
<input type="checkbox"/> 1. ALL F001-F005	<input type="checkbox"/> 12. Cyclohexanone	<input type="checkbox"/> 25. Pyridine	
<input type="checkbox"/> 2. Acetone	<input type="checkbox"/> 13. o-Dichlorobenzene	<input type="checkbox"/> 26. Tetrachloroethylene	
<input type="checkbox"/> 3. Benzene	<input type="checkbox"/> 14. 2-Ethoxyethanol (F005 only)	<input type="checkbox"/> 27. Toluene	
<input type="checkbox"/> 4. n-Butyl alcohol	<input type="checkbox"/> 15. Ethyl acetate	<input type="checkbox"/> 28. 1,1,1-Trichloroethane	
<input type="checkbox"/> 5. Carbon disulfide	<input type="checkbox"/> 16. Ethyl benzene	<input type="checkbox"/> 29. 1,1,2-Trichloroethane	
<input type="checkbox"/> 6. Carbon tetrachloride	<input type="checkbox"/> 17. Ethyl ether	<input type="checkbox"/> 30. Trichloroethylene	
<input type="checkbox"/> 7. Chlorobenzene	<input type="checkbox"/> 18. Isobutyl alcohol	<input type="checkbox"/> 31. 1,1,2-Trichloro-1,2,2-trifluoroethane	
<input type="checkbox"/> 8. o-Cresol	<input type="checkbox"/> 19. Methanol	<input type="checkbox"/> 32. Trichloromonofluoromethane	
<input type="checkbox"/> 9. m-Cresol (difficult to distinguish from p-cresol)	<input type="checkbox"/> 20. Methylene chloride	<input type="checkbox"/> 33. Xylene - mixed isomers (sum of o-, m-, and p-xylene)	
<input type="checkbox"/> 10. p-Cresol (difficult to distinguish from m-cresol)	<input type="checkbox"/> 21. Methyl ethyl ketone		
<input type="checkbox"/> 11. Cresol - mixed isomers (sum of o-, m- and p-cresol)	<input type="checkbox"/> 22. Methyl isobutyl ketone		
	<input type="checkbox"/> 23. Nitrobenzene		
	<input type="checkbox"/> 24. 2-Nitropropane (F005 only)		

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SECTION III. CALIFORNIA LIST WASTES

COLUMN 1:
LINE ITEM
SEE MANIFEST

COLUMN 2:
WASTE CODE / SUBCATEGORY

COLUMN 3:
WASTEWATER/
NON-WASTEWATER

COLUMN 4:
HANDLING CODE

Hazardous waste containing one or more of the following ☐ WW ☐ Non-WW 1 2 3 4 5 6
California List constituents:

- ☐ ALL CALIFORNIA LIST CONSTITUENTS
- ☐ Liquids with nickel greater than or equal to 134 mg/l
- ☐ Liquids with thallium greater than or equal to 130 mg/l
- ☐ Liquids with PCB's > or = 50 ppm
- ☐ Waste containing HOC's > or = 1,000 mg/kg

SECTION IV. OTHER LISTED WASTES (F006-12, F019-F028, F037-38, F039, K-, U-, AND P-CODES)

COLUMN 1:
LINE ITEM
SEE MANIFEST

COLUMN 2:
WASTE CODE / SUBCATEGORY

COLUMN 3:
WASTEWATER/
NON-WASTEWATER

COLUMN 4:
HANDLING CODE

11A	K062	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	3 4 5 6
		<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
		<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
		<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
		<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6

- ☐ CHECK HERE IF ADDITIONAL LISTED WASTE CODES ARE PRESENT. COMPLETE AND ATTACH LDR-1 CONTINUATION SHEET.
- ☐ CHECK HERE IF WASTE CODE F039 (MULTISOURCE LEACHATE) IS PRESENT. IDENTIFY F039 CONSTITUENTS BY COMPLETING SECTIONS II AND IV OF CHI FORM LDR-1 ADDENDUM AND ATTACH COMPLETED ADDENDUM TO THIS FORM.

SECTION V. CONTACT NAME AND DATE

Print Name:

DAVID RYB

Date:

8-10-99

KEY TERMS/DEFINITIONS

CLASS I SDWA SYSTEM means a Class I deep well facility regulated under the Safe Drinking Water Act (SDWA).

CWA SYSTEM means a centralized wastewater treatment facility discharging under a Clean Water Act (CWA) permit. For example, a CWA facility would treat organic or inorganic aqueous wastes and discharge the treated effluent to the local sewer system. Examples of CWA treatment systems owned and operated by Clean Harbors include the wastewater treatment operations at Baltimore (including the CES system), Bristol, Chicago, Cincinnati and Cleveland.

CWA-EQUIVALENT SYSTEM means a "zero discharge system" that engages in "CWA-equivalent" treatment before land disposal. Zero-discharge facilities treat hazardous wastes using "CWA-equivalent" treatment methods, but do not discharge the treatment effluent to a sewer or water body (e.g., spray irrigation land farm). "CWA-equivalent" treatment methods means biological treatment for organics, alkaline chlorination, or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

HIGH TOC IGNITABLE LIQUIDS SUBCATEGORY means an ignitable liquid hazardous waste (waste code D001) which contains greater than or equal to 10% total organic carbon (TOC). Pursuant to 40 CFR 268.40, such wastes must be treated using organic recovery (RORGs) or combustion (CMBST) technology. Examples of RORGs technologies include the CES unit at Clean Harbors of Baltimore. Examples of CMBST technologies include hazardous waste fuel blending and subsequent reuse at a cement kiln, or destruction at a RCRA incinerator.

WASTEWATERS are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). [See 40 CFR 268.2(f)]



PLEASE TYPE

(Form designed for use on elite (12-pitch) typewriter)

EPA Form 8700-22 (Rev. 6-89)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. I N D 0 4 0 8 8 8 9 9 2 00003		Manifest Document No. 00003		2 Page 1 of 1		Information in the shaded areas is not required by Federal law, but is required by Illinois law.	
3. Generator's Name and Mailing Address 6500 Industrial Highway Group 414 Plaza Drive Suite 106 Westmont, IL 60559		Location If Different 6499 Industrial Highway Gary, IN 46406 800-645-8265		A. Illinois Manifest Document Number IL 8493074		FEE PAID IF APPLICABLE			
4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS		6. US EPA ID Number		B. Generator's IL ID Number 9170019899		C. Transporter's ID Number 460018074304		D. Transporter's Phone 817-848-1800	
5. Transporter 1 Company Name CLEAN HARBORS SERVICES INC		8. US EPA ID Number		E. Transporter's ID Number		F. Transporter's Phone ()			
7. Transporter 2 Company Name		10. US EPA ID Number		G. Facility's IL ID Number 0316000051		H. Facility's Phone (773) 646-6202			
9. Designated Facility Name and Site Address Clean Harbors Services Inc 11800 South Stony Island Ave Chicago, IL 60617									
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No Type		13. Total Quantity		14. Unit Wt/Vol		1. Waste No.	
a. WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulfuric Acid), 8, UN3264, II		- 1 TT - 5300 G						EPA HW Number K 0 6 2	
b.								EPA HW Number	
c.								EPA HW Number	
d.								EPA HW Number	
Additional Description for Materials Listed Above 1.1a CH144189B D002, D007, D008								K. Handling Codes for Wastes Listed Above In Item #14	
15. Special Handling Instructions and Additional Information								wo# NB189251	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.		Printed/Typed Name David G. Pyles - Agent for Clean Harbors Industrial Hwy Group		Signature [Signature]		Date Month Day Year 08/10/98			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name Jon Porter		Signature [Signature]		Date Month Day Year 08/10/98			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Date Month Day Year			
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.		Printed/Typed Name Jesse Brantico		Signature [Signature]		Date Month Day Year 08/10/99			

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed \$25,000 per day of violation. Falsification of this information may result in a fine up to \$50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

Clean Harbors has appropriate permits for & will accept the waste the generator is shipping.

COPY 1: TSD MAIL TO GENERATOR

In case of a spill call the Illinois Office of Emergency Response at 217/782-7860 and the National Response Center at 800/424-8802 or 202/426-2675.

THE HAZARDOUS WASTES IDENTIFIED ON THE HAZARDOUS WASTE MANIFEST IDENTIFIED ABOVE AND BEARING THE EPA HAZARDOUS WASTE CODES LISTED BELOW ARE RESTRICTED WASTES WHICH ARE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT UNDER THE LAND DISPOSAL RESTRICTIONS, 40 CFR PART 268 AND RCRA SECTION 3004(D). IN ACCORDANCE WITH 40 CFR 268.7(a), THE EPA WASTE CODE, WASTE SUBCATEGORY, AND TREATABILITY GROUPS, AS APPLICABLE, ARE INCLUDED BELOW.

INSTRUCTIONS -- COMPLETE ALL SECTIONS. REFER TO PAGE 3 OF THIS FORM FOR KEY TERMS/DEFINITIONS.

Column 1 - Line Item: Enter the manifest line item number (e.g., 11a) that corresponds to the waste code(s).

Column 2 - Waste Codes/Subcategory: Check off all applicable waste codes. For D001 through D043, also check applicable subcategory; for F001 through F005, check applicable constituents.

Column 3 - Wastewater/Non-wastewater: Check off "WW" for wastewater and "Non-WW" for non-wastewaters.

Column 4 - LDR Handling Code: Circle the appropriate handling code, as follows:

1 = The waste is a characteristic hazardous waste D001, D002, D003, D004-D011, or D018-43 which is intended for treatment/disposal in a CWA system, CWA-equivalent system, or Class I SDWA system. Underlying Hazardous Constituents (UHC's) are NOT required to be identified.

1A = The waste is a characteristic hazardous waste D001 High TOC Ignitable Liquids Subcategory (i.e., greater than or equal to 10% TOC). Pursuant to 40 CFR 268.40, the waste must be treated using organic recovery (RORGs) or combustion (CMBST) technology. UHC's are NOT required to be identified.

2 = The waste is a characteristic hazardous waste D001 (other than High TOC Ignitable Liquids), D002, D003 Explosive, Water Reactive or Other Reactive subcategory, D004-D011, D012-17 non-wastewater, or D018-43 which is intended for treatment/disposal in a non-CWA system, non-CWA-equivalent system, or non-Class I SDWA system located in the United States. All UHC's which are reasonably expected to be present must be identified, except for D001 waste that is intended to be treated using organic recovery (RORGs) or combustion (CMBST) technologies. Identify UHC's by completing Sections I and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.

3 = The waste is a characteristic (i.e., D-code) or listed (i.e., F-, K-, U-, or P-code) hazardous waste which is intended for export and treatment/disposal at a facility located outside the United States. LDR treatment standards do not apply to hazardous waste treated/disposed in a foreign country, and per USEPA guidance, the identification of UHC's (if applicable) is not required for hazardous waste that is intended to be exported. Note however that if the exported waste is subsequently returned for treatment/disposal in the United States, all applicable LDR regulations would apply and a revised LDR notification would be required.

4 = The waste meets the definition of hazardous debris pursuant to 40 CFR 268.2(h) and is intended for treatment/disposal in compliance with the alternate debris treatment technologies of 40 CFR 268.45. In accordance with the requirements of 40 CFR 268.7(a)(1)(iv)(A): (1) "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45"; and (2) the contaminants subject to treatment (CSTT's) must be identified as part of this notification. Identify CSTT's by completing Sections III and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.

5 = The waste is a characteristic waste D003 Reactive Sulfide, Reactive Cyanide, or Unexploded Ordnance subcategory, a characteristic waste D012-17 wastewater, or a listed (i.e., F-, K-, U-, or P-code) hazardous waste. UHC's are NOT required to be identified.

6 = The waste is a lab pack that is intended for incineration using the alternative lab pack treatment standard under 40 CFR 268.42(c). UHC's are NOT required to be identified; however, the generator must complete and attach the lab pack certification statement on CHI Form LDR-LP. Note that in accordance with 40 CFR Part 268 Appendix IV, lab packs which contain waste codes D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, and U151 are not eligible for alternative lab pack treatment standard.

*** NOTE: IF THE WASTE IS A SOIL CONTAMINATED WITH A LISTED OR CHARACTERISTIC WASTE AND THE GENERATOR WANTS TO USE THE ALTERNATE TREATMENT STANDARD FOR SOILS, CONTACT CORPORATE COMPLIANCE FOR THE APPROPRIATE LDR NOTIFICATION FORM.

SECTION I. CHARACTERISTIC WASTES D001 THROUGH D043

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	<input type="checkbox"/> D001 Ignitables, except High TOC subcategory	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D001 High TOC Ignitable Liquids Subcategory (Greater than or equal to 10% TOC)	<input type="checkbox"/> Non-WW only	1A 3 6
<u>11A</u>	<input checked="" type="checkbox"/> D002 Corrosives	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	<u>1</u> 2 3 4 6
	<input checked="" type="checkbox"/> D003		
	<input type="checkbox"/> Reactive Sulfide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Reactive Cyanide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Explosive, per 261.23(a)(6), (7) & (8)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Water Reactive, per 261.23(a)(2), (3) & (4)	<input type="checkbox"/> Non-WW only	1 2 3 4 6
	<input type="checkbox"/> Other Reactive, per 261.23(a)(1)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Unexploded Ordnance, Emergency Response	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> D004 Arsenic	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D005 Barium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D006		
	<input type="checkbox"/> Cadmium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Cadmium Containing Batteries	<input type="checkbox"/> Non-WW only	2 3 6
<u>11A</u>	<input checked="" type="checkbox"/> D007 Chromium	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	<u>1</u> 2 3 4 6
	<input checked="" type="checkbox"/> D008		
	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	<u>1</u> 2 3 4 6
	<input type="checkbox"/> Lead Acid Batteries	<input type="checkbox"/> Non-WW only	2 3 6

SECTION I. CHARACTERISTIC WASTES D001-43 (CONTINUED)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / NAME	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
<input type="checkbox"/> D009	<input type="checkbox"/> Low Mercury, less than 260 mg/kg Mercury	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4
<input type="checkbox"/> D010	<input type="checkbox"/> High Mercury Organic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
<input type="checkbox"/> D011	<input type="checkbox"/> High Mercury Inorganic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
<input type="checkbox"/> D012	<input type="checkbox"/> Selenium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D013	<input type="checkbox"/> Silver	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D014	<input type="checkbox"/> Endrin	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D015	<input type="checkbox"/> Lindane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D016	<input type="checkbox"/> Methoxychlor	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D017	<input type="checkbox"/> Toxaphene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D018	<input type="checkbox"/> 2,4-D	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D019	<input type="checkbox"/> 2,4,5-TP (Silvex)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D020	<input type="checkbox"/> Benzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D021	<input type="checkbox"/> Carbon tetrachloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D022	<input type="checkbox"/> Chlordane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D023	<input type="checkbox"/> Chlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D024	<input type="checkbox"/> Chloroform	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D025	<input type="checkbox"/> o-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D026	<input type="checkbox"/> m-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D027	<input type="checkbox"/> p-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D028	<input type="checkbox"/> Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D029	<input type="checkbox"/> 1,4-Dichlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D030	<input type="checkbox"/> 1,2-Dichloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D031	<input type="checkbox"/> 1,1-Dichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D032	<input type="checkbox"/> 2,4-Dinitrotoluene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D033	<input type="checkbox"/> Heptachlor (and its epoxide)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D034	<input type="checkbox"/> Hexachlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D035	<input type="checkbox"/> Hexachlorobutadiene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D036	<input type="checkbox"/> Hexachloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D037	<input type="checkbox"/> Methyl ethyl ketone	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D038	<input type="checkbox"/> Nitrobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D039	<input type="checkbox"/> Pentachlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D040	<input type="checkbox"/> Pyridine	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D041	<input type="checkbox"/> Tetrachloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D042	<input type="checkbox"/> Trichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D043	<input type="checkbox"/> 2,4,5-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> 2,4,6-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Vinyl Chloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6

SECTION II. SPENT SOLVENT WASTES F001 THROUGH F005

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / CONSTITUENTS	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
<input type="checkbox"/> F001	<input type="checkbox"/> F002	<input type="checkbox"/> F003	<input type="checkbox"/> F004
<input type="checkbox"/> F005	<input type="checkbox"/> WW	<input type="checkbox"/> Non-WW	3 4 5 6
<input type="checkbox"/> 1. ALL F001-F005	<input type="checkbox"/> 12. Cyclohexanone	<input type="checkbox"/> 25. Pyridine	
<input type="checkbox"/> 2. Acetone	<input type="checkbox"/> 13. o-Dichlorobenzene	<input type="checkbox"/> 26. Tetrachloroethylene	
<input type="checkbox"/> 3. Benzene	<input type="checkbox"/> 14. 2-Ethoxyethanol (F005 only)	<input type="checkbox"/> 27. Toluene	
<input type="checkbox"/> 4. n-Butyl alcohol	<input type="checkbox"/> 15. Ethyl acetate	<input type="checkbox"/> 28. 1,1,1-Trichloroethane	
<input type="checkbox"/> 5. Carbon disulfide	<input type="checkbox"/> 16. Ethyl benzene	<input type="checkbox"/> 29. 1,1,2-Trichloroethane	
<input type="checkbox"/> 6. Carbon tetrachloride	<input type="checkbox"/> 17. Ethyl ether	<input type="checkbox"/> 30. Trichloroethylene	
<input type="checkbox"/> 7. Chlorobenzene	<input type="checkbox"/> 18. Isobutyl alcohol	<input type="checkbox"/> 31. 1,1,2-Trichloro-1,2,2-trifluoroethane	
<input type="checkbox"/> 8. o-Cresol	<input type="checkbox"/> 19. Methanol	<input type="checkbox"/> 32. Trichloromonofluoromethane	
<input type="checkbox"/> 9. m-Cresol (difficult to distinguish from p-cresol)	<input type="checkbox"/> 20. Methylene chloride	<input type="checkbox"/> 33. Xylene - mixed isomers (sum of o-, m-, and p-xylene)	
<input type="checkbox"/> 10. p-Cresol (difficult to distinguish from m-cresol)	<input type="checkbox"/> 21. Methyl ethyl ketone		
<input type="checkbox"/> 11. Cresol - mixed isomers (sum of o-, m- and p-cresol)	<input type="checkbox"/> 22. Methyl isobutyl ketone		
	<input type="checkbox"/> 23. Nitrobenzene		
	<input type="checkbox"/> 24. 2-Nitropropane (F005 only)		

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SECTION III. CALIFORNIA LIST WASTES

COLUMN 1:
LINE ITEM
SEE MANIFEST

COLUMN 2:
WASTE CODE / SUBCATEGORY

COLUMN 3:
WASTEWATER/
NON-WASTEWATER

COLUMN 4:
HANDLING CODE

Hazardous waste containing one or more of the following ☐ WW ☐ Non-WW 1 2 3 4 5 6
California List constituents:

- ☐ ALL CALIFORNIA LIST CONSTITUENTS
☐ Liquids with nickel greater than or equal to 134 mg/l
☐ Liquids with thallium greater than or equal to 130 mg/l
☐ Liquids with PCB's > or = 50 ppm
☐ Waste containing HOC's > or = 1,000 mg/kg

SECTION IV. OTHER LISTED WASTES (F006-12, F019-F028, F037-38, F039, K-, U-, AND P-CODES)

COLUMN 1:
LINE ITEM
SEE MANIFEST

COLUMN 2:
WASTE CODE / SUBCATEGORY

COLUMN 3:
WASTEWATER/
NON-WASTEWATER

COLUMN 4:
HANDLING CODE

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
11A	K062	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	3 4 5 6
		<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
		<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
		<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6
		<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	3 4 5 6

- ☐ CHECK HERE IF ADDITIONAL LISTED WASTE CODES ARE PRESENT. COMPLETE AND ATTACH LDR-1 CONTINUATION SHEET.
☐ CHECK HERE IF WASTE CODE F039 (MULTISOURCE LEACHATE) IS PRESENT. IDENTIFY F039 CONSTITUENTS BY COMPLETING SECTIONS II AND IV OF CHI FORM LDR-1 ADDENDUM AND ATTACH COMPLETED ADDENDUM TO THIS FORM.

SECTION V. CONTACT NAME AND DATE

Print Name:

Dan Ryles

Date:

KEY TERMS/DEFINITIONS

CLASS I SDWA SYSTEM means a Class I deep well facility regulated under the Safe Drinking Water Act (SDWA).

CWA SYSTEM means a centralized wastewater treatment facility discharging under a Clean Water Act (CWA) permit. For example, a CWA facility would treat organic or inorganic aqueous wastes and discharge the treated effluent to the local sewer system. Examples of CWA treatment systems owned and operated by Clean Harbors include the wastewater treatment operations at Baltimore (including the CES system), Bristol, Chicago, Cincinnati and Cleveland.

CWA-EQUIVALENT SYSTEM means a "zero discharge system" that engages in "CWA-equivalent" treatment before land disposal. Zero-discharge facilities treat hazardous wastes using "CWA-equivalent" treatment methods, but do not discharge the treatment effluent to a sewer or water body (e.g., spray irrigation land farm). "CWA-equivalent" treatment methods means biological treatment for organics, alkaline chlorination, or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

HIGH TOC IGNITABLE LIQUIDS SUBCATEGORY means an ignitable liquid hazardous waste (waste code D001) which contains greater than or equal to 10% total organic carbon (TOC). Pursuant to 40 CFR 268.40, such wastes must be treated using organic recovery (RORGs) or combustion (CMBST) technology. Examples of RORGs technologies include the CES unit at Clean Harbors of Baltimore. Examples of CMBST technologies include hazardous waste fuel blending and subsequent reuse at a cement kiln, or destruction at a RCRA incinerator.

WASTEWATERS are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). [See 40 CFR 268.2(f)]



P.O. BOX 19276

SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81

IL532-0610

EPA Form 8700-22 (Rev. 6-89)

Form Approved OMB No. 2050-0039

FOR SHIPMENT OF HAZARDOUS
AND SPECIAL WASTE

#335

PLEASE TYPE

(Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of 1		Information in the shaded areas is not required by Federal law, but is required by Illinois law.	
3. Generator's Name and Mailing Address 6504 Industrial Highway Group 414 Plaza Drive Suite 106 Westmont, IL 60559		Location If Different 6499 Industrial Highway Gary, IN 46406 800-645-8265		IND 04088892100004		A. Illinois Manifest Document Number IL 8493100		FEE PAID, IF APPLICABLE	
4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS		6. US EPA ID Number		C. Transporter's ID Number		D. Transporter's Phone		E. Transporter's ID Number	
5. Transporter 1 Company Name CLEAN HARBORS ENV. SERVICES INC.		7. Transporter 2 Company Name		8. US EPA ID Number		F. Transporter's Phone ()		G. Facility's IL ID Number	
9. Designated Facility Name and Site Address Clean Harbors Services Inc 11800 South Stony Island Ave Chicago, IL 60617		10. US EPA ID Number ILD 000608471		H. Facility's Phone (773) 646-6202					
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity		14. Unit Wt/Vol		1. Waste No.	
a. WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulfuric Acid), 8, UN3264, II		No. Type						EPA HW Number K 062	
b.								EPA HW Number	
c.								EPA HW Number	
d.								EPA HW Number	
J. Additional Description for Materials Listed Above 11a CH144189B D002 D007 D008		K. Handling Codes for Wastes Listed Above In Item #14							
15. Special Handling Instructions and Additional Information								wo# NB189251	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.		Printed/Typed Name DAVID RILEY		Signature [Signature]		Date 08/1/99			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name TOARQUE GARCIA		Signature [Signature]		Date 08/1/99			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Date			
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.		Printed/Typed Name Jesse Beattie		Signature [Signature]		Date 08/1/99			

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed \$25,000 per day of violation. Falsification of this information may result in a fine up to \$50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

Clean Harbors has appropriate permits for & will accept the waste the generator is shipping.

COPY 1. TSD MAIL TO GENERATOR

In case of a spill call the Illinois Office of Emergency Response at 217/782-7860 and the National Response Center at 800/424-8802 or 202/426-2675.

THE HAZARDOUS WASTES IDENTIFIED ON THE HAZARDOUS WASTE MANIFEST IDENTIFIED ABOVE AND BEARING THE EPA HAZARDOUS WASTE CODES LISTED BELOW ARE RESTRICTED WASTES WHICH ARE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT UNDER THE LAND DISPOSAL RESTRICTIONS, 40 CFR PART 268 AND RCRA SECTION 3004(D). IN ACCORDANCE WITH 40 CFR 268.7(a), THE EPA WASTE CODE, WASTE SUBCATEGORY, AND TREATABILITY GROUPS, AS APPLICABLE, ARE INCLUDED BELOW.

INSTRUCTIONS -- COMPLETE ALL SECTIONS. REFER TO PAGE 3 OF THIS FORM FOR KEY TERMS/DEFINITIONS.

- Column 1 - Line Item: Enter the manifest line item number (e.g., 11a) that corresponds to the waste code(s).
Column 2 - Waste Codes/Subcategory: Check off all applicable waste codes. For D001 through D043, also check applicable subcategory; for F001 through F005, check applicable constituents.
Column 3 - Wastewater/Non-wastewater: Check off "WW" for wastewater and "Non-WW" for non-wastewaters.
Column 4 - LDR Handling Code: Circle the appropriate handling code, as follows:
- The waste is a characteristic hazardous waste D001, D002, D003, D004-D011, or D018-43 which is intended for treatment/disposal in a CWA system, CWA-equivalent system, or Class I SDWA system. Underlying Hazardous Constituents (UHC's) are NOT required to be identified.
 - The waste is a characteristic hazardous waste D001 High TOC Ignitable Liquids Subcategory (i.e., greater than or equal to 10% TOC). Pursuant to 40 CFR 268.40, the waste must be treated using organic recovery (RORGs) or combustion (CMBST) technology. UHC's are NOT required to be identified.
 - The waste is a characteristic hazardous waste D001 (other than High TOC Ignitable Liquids), D002, D003 Explosive, Water Reactive or Other Reactive subcategory, D004-D011, D012-17 non-wastewater, or D018-43 which is intended for treatment/disposal in a non-CWA system, non-CWA-equivalent system, or non-Class I SDWA system located in the United States. All UHC's which are reasonably expected to be present must be identified, except for D001 waste that is intended to be treated using organic recovery (RORGs) or combustion (CMBST) technologies. Identify UHC's by completing Sections I and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
 - The waste is a characteristic (i.e., D-code) or listed (i.e., F-, K-, U-, or P-code) hazardous waste which is intended for export and treatment/disposal at a facility located outside the United States. LDR treatment standards do not apply to hazardous waste treated/disposed in a foreign country, and per USEPA guidance, the identification of UHC's (if applicable) is not required for hazardous waste that is intended to be exported. Note however that if the exported waste is subsequently returned for treatment/disposal in the United States, all applicable LDR regulations would apply and a revised LDR notification would be required.
 - The waste meets the definition of hazardous debris pursuant to 40 CFR 268.2(h) and is intended for treatment/disposal in compliance with the alternate debris treatment technologies of 40 CFR 268.45. In accordance with the requirements of 40 CFR 268.7(a)(1)(iv)(A): (1) "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45"; and (2) the contaminants subject to treatment (CSTT's) must be identified as part of this notification. Identify CSTT's by completing Sections III and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
 - The waste is a characteristic waste D003 Reactive Sulfide, Reactive Cyanide, or Unexploded Ordnance subcategory, a characteristic waste D012-17 wastewater, or a listed (i.e., F-, K-, U-, or P-code) hazardous waste. UHC's are NOT required to be identified.
 - The waste is a lab pack that is intended for incineration using the alternative lab pack treatment standard under 40 CFR 268.42(c). UHC's are NOT required to be identified; however, the generator must complete and attach the lab pack certification statement on CHI Form LDR-LP. Note that in accordance with 40 CFR Part 268 Appendix IV, lab packs which contain waste codes D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, and U151 are not eligible for alternative lab pack treatment standard.

*** NOTE: IF THE WASTE IS A SOIL CONTAMINATED WITH A LISTED OR CHARACTERISTIC WASTE AND THE GENERATOR WANTS TO USE THE ALTERNATE TREATMENT STANDARD FOR SOILS, CONTACT CORPORATE COMPLIANCE FOR THE APPROPRIATE LDR NOTIFICATION FORM.

SECTION I. CHARACTERISTIC WASTES D001 THROUGH D043

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	<input type="checkbox"/> D001 Ignitables, except High TOC subcategory	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D001 High TOC Ignitable Liquids Subcategory (Greater than or equal to 10% TOC)	<input type="checkbox"/> Non-WW only	1A - 3 6
11A	<input checked="" type="checkbox"/> D002 Corrosives	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D003		
	<input type="checkbox"/> Reactive Sulfide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Reactive Cyanide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Explosive, per 261.23(a)(6), (7) & (8)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Water Reactive, per 261.23(a)(2), (3) & (4)	<input type="checkbox"/> Non-WW only	1 2 3 4 6
	<input type="checkbox"/> Other Reactive, per 261.23(a)(1)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Unexploded Ordnance, Emergency Response	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> D004 Arsenic	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D005 Barium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D006		
	<input type="checkbox"/> Cadmium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Cadmium Containing Batteries	<input type="checkbox"/> Non-WW only	2 3 6
11A	<input checked="" type="checkbox"/> D007 Chromium	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
11A	<input checked="" type="checkbox"/> D008		
	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Lead Acid Batteries	<input type="checkbox"/> Non-WW only	2 3 6

IL-8493100

SECTION I. CHARACTERISTIC WASTES D001-43 (CONTINUED)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / NAME	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
<input type="checkbox"/> D009	<input type="checkbox"/> Low Mercury, less than 260 mg/kg Mercury	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4
<input type="checkbox"/> D010	<input type="checkbox"/> High Mercury Organic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
<input type="checkbox"/> D011	<input type="checkbox"/> High Mercury Inorganic Subcategory	<input type="checkbox"/> Non-WW only	2 3 4
<input type="checkbox"/> D012	<input type="checkbox"/> Selenium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D013	<input type="checkbox"/> Silver	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D014	<input type="checkbox"/> Endrin	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D015	<input type="checkbox"/> Lindane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D016	<input type="checkbox"/> Methoxychlor	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D017	<input type="checkbox"/> Toxaphene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D018	<input type="checkbox"/> 2,4-D	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D019	<input type="checkbox"/> 2,4,5-TP (Silvex)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	2 3 4 5 6
<input type="checkbox"/> D020	<input type="checkbox"/> Benzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D021	<input type="checkbox"/> Carbon tetrachloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D022	<input type="checkbox"/> Chlordane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D023	<input type="checkbox"/> Chlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D024	<input type="checkbox"/> Chloroform	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D025	<input type="checkbox"/> o-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D026	<input type="checkbox"/> m-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D027	<input type="checkbox"/> p-Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D028	<input type="checkbox"/> Cresol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D029	<input type="checkbox"/> 1,4-Dichlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D030	<input type="checkbox"/> 1,2-Dichloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D031	<input type="checkbox"/> 1,1-Dichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D032	<input type="checkbox"/> 2,4-Dinitrotoluene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D033	<input type="checkbox"/> Heptachlor (and its epoxide)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D034	<input type="checkbox"/> Hexachlorobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D035	<input type="checkbox"/> Hexachlorobutadiene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D036	<input type="checkbox"/> Hexachloroethane	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D037	<input type="checkbox"/> Methyl ethyl ketone	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D038	<input type="checkbox"/> Nitrobenzene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D039	<input type="checkbox"/> Pentachlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D040	<input type="checkbox"/> Pyridine	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D041	<input type="checkbox"/> Tetrachloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D042	<input type="checkbox"/> Trichloroethylene	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
<input type="checkbox"/> D043	<input type="checkbox"/> 2,4,5-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> 2,4,6-Trichlorophenol	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Vinyl Chloride	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6

SECTION II. SPENT SOLVENT WASTES F001 THROUGH F005

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / CONSTITUENTS					COLUMN 3: WASTEWATER/ NON-WASTEWATER		COLUMN 4: HANDLING CODE			
	[] F001	[] F002	[] F003	[] F004	[] F005	[] WW	[] Non-WW	3	4	5	6
[] 1. ALL F001-F005				[] 12. Cyclohexanone		[] 25. Pyridine					
[] 2. Acetone				[] 13. o-Dichlorobenzene		[] 26. Tetrachloroethylene					
[] 3. Benzene				[] 14. 2-Ethoxyethanol (F005 only)		[] 27. Toluene					
[] 4. n-Butyl alcohol				[] 15. Ethyl acetate		[] 28. 1,1,1-Trichloroethane					
[] 5. Carbon disulfide				[] 16. Ethyl benzene		[] 29. 1,1,2-Trichloroethane					
[] 6. Carbon tetrachloride				[] 17. Ethyl ether		[] 30. Trichloroethylene					
[] 7. Chlorobenzene				[] 18. Isobutyl alcohol		[] 31. 1,1,2-Trichloro-1,2,2-trifluoroethane					
[] 8. o-Cresol				[] 19. Methanol		[] 32. Trichloromonofluoromethane					
[] 9. m-Cresol (difficult to distinguish from p-cresol)				[] 20. Methylene chloride		[] 33. Xylene - mixed isomer (sum of o-, m-, and p-xylene)					
[] 10. p-Cresol (difficult to distinguish from m-cresol)				[] 21. Methyl ethyl ketone							
[] 11. Cresol - mixed isomers (sum of o-, m- and p-cresol)				[] 22. Methyl isobutyl ketone							
				[] 23. Nitrobenzene							
				[] 24. 2-Nitropropane (F005 only)							

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SECTION III. CALIFORNIA LIST WASTES

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	Hazardous waste containing one or more of the following [] WW [] Non-WW		1 2 3 4 5 6
	California List constituents:		
	[] ALL CALIFORNIA LIST CONSTITUENTS		
	[] Liquids with nickel greater than or equal to 134 mg/l		
	[] Liquids with thallium greater than or equal to 130 mg/l		
	[] Liquids with PCB's > or = 50 ppm		
	[] Waste containing HOC's > or = 1,000 mg/kg		

SECTION IV. OTHER LISTED WASTES (F006-12, F019-F028, F037-38, F039, K-, U-, AND P-CODES)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
<u>11A</u>	<u>K062</u>	[] WW <input checked="" type="checkbox"/> Non-WW	3 4 <u>5</u> 6
		[] WW [] Non-WW	3 4 5 6
		[] WW [] Non-WW	3 4 5 6
		[] WW [] Non-WW	3 4 5 6
		[] WW [] Non-WW	3 4 5 6

[] CHECK HERE IF ADDITIONAL LISTED WASTE CODES ARE PRESENT. COMPLETE AND ATTACH LDR-1 CONTINUATION SHEET.
[] CHECK HERE IF WASTE CODE F039 (MULTISOURCE LEACHATE) IS PRESENT. IDENTIFY F039 CONSTITUENTS BY COMPLETING SECTIONS II AND IV OF CHI FORM LDR-1 ADDENDUM AND ATTACH COMPLETED ADDENDUM TO THIS FORM.

SECTION V. CONTACT NAME AND DATE

Print Name

David Pyles Agent for BSO Industrial
Highway Group

Date:

8-11-99

KEY TERMS/DEFINITIONS

CLASS I SDWA SYSTEM means a Class I deep well facility regulated under the Safe Drinking Water Act (SDWA).

CWA SYSTEM means a centralized wastewater treatment facility discharging under a Clean Water Act (CWA) permit. For example, a CWA facility would treat organic or inorganic aqueous wastes and discharge the treated effluent to the local sewer system. Examples of CWA treatment systems owned and operated by Clean Harbors include the wastewater treatment operations at Baltimore (including the CES system), Bristol, Chicago, Cincinnati and Cleveland.

CWA-EQUIVALENT SYSTEM means a "zero discharge system" that engages in "CWA-equivalent" treatment before land disposal. Zero-discharge facilities treat hazardous wastes using "CWA-equivalent" treatment methods, but do not discharge the treatment effluent to a sewer or water body (e.g., spray irrigation land farm). "CWA-equivalent" treatment methods means biological treatment for organics, alkaline chlorination, or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

HIGH TOC IGNITABLE LIQUIDS SUBCATEGORY means an ignitable liquid hazardous waste (waste code D001) which contains greater than or equal to 10% total organic carbon (TOC). Pursuant to 40 CFR 260.40, such wastes must be treated using organic recovery (RORGs) or combustion (CMBST) technology. Examples of RORGs technologies include the CES unit at Clean Harbors of Baltimore. Examples of CMBST technologies include hazardous waste fuel blending and subsequent reuse at a cement kiln, or destruction at a RCRA incinerator.

WASTEWATERS are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). [See 40 CFR 260.2(f)]



PLEASE TYPE

(Form designed for use on elite (12-pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. TND040888992		Manifest Document No. 95079		2. Page 1 of 1		Information in the shaded areas is not required by Federal law, but is required by Illinois law.	
3. Generator's Name and Address 6500 Industrial Highway Group 414 Plaza Drive Suite 106 Westmont, IL 60559		Location If Different 6499 Industrial Highway Gary, IN 46406		4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS 800-645-8265		A. Illinois Manifest Document Number IL 8493099		FEE PAID IF APPLICABLE	
5. Transporter 1 Company Name Clean Harbors Env. Serv. Inc.		6. US EPA ID Number MAD039322250		7. Transporter 2 Company Name		8. US EPA ID Number		C. Transporter's ID Number 4PWO12074304	
9. Designated Facility Name and Site Address Clean Harbors Services Inc 11800 South Stony Island Ave Chicago, IL 60617		10. US EPA ID Number TLD000608471		D. Transporter's Phone 781-844-1200		E. Transporter's ID Number		F. Transporter's Phone ()	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity		14. Unit W/Vol		15. Waste No.	
a. WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulfuric Acid), 8, UN3264, II		No. Type		Quantity		W/Vol		EPA HW Number K062	
b.								EPA HW Number	
c.								EPA HW Number	
d.								EPA HW Number	
J. Additional Description for Materials Listed Above 11a CH144189B D002, D007, D008		K. Handling Codes for Wastes Listed Above in Item #14							
15. Special Handling Instructions and Additional Information								wo# NB189251	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.		Printed/Typed Name FRED KRIKAV, AGEND FOR 6500 INDUSTRIAL HIGHWAY GROUP		Signature Fred Krikav		Date 08/11/99			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name CH F K RUSK		Signature C. F. Rusk		Date 08/11/99			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Date			
19. Discrepancy Indication Space		B-9190019999							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.		Printed/Typed Name Jesse Arcinilo		Signature Jesse Arcinilo		Date 08/11/99			

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed \$25,000 per day of violation. Falsification of this information may result in a fine up to \$50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

Clean Harbors has appropriate permits for this waste and will accept the waste the generator is shipping.

COPY 1 TO MAIL TO GENERATOR

In case of a spill call the Illinois Office of Emergency Response at 217/782-7860 and the National Response Center at 800/424-8802 or 202/426-2675.

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THE HAZARDOUS WASTES IDENTIFIED ON THE HAZARDOUS WASTE MANIFEST IDENTIFIED ABOVE AND BEARING THE EPA HAZARDOUS WASTE CODES LISTED BELOW ARE RESTRICTED WASTES WHICH ARE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT UNDER THE LAND DISPOSAL RESTRICTIONS, 40 CFR PART 268 AND RCRA SECTION 3004(D). IN ACCORDANCE WITH 40 CFR 268.7(a), THE EPA WASTE CODE, WASTE SUBCATEGORY, AND TREATABILITY GROUPS, AS APPLICABLE, ARE INCLUDED BELOW.

INSTRUCTIONS -- COMPLETE ALL SECTIONS. REFER TO PAGE 3 OF THIS FORM FOR KEY TERMS/DEFINITIONS.

- Column 1 - Line Item: Enter the manifest line item number (e.g., 11a) that corresponds to the waste code(s).
Column 2 - Waste Codes/Subcategory: Check off all applicable waste codes. For D001 through D043, also check applicable subcategory; for F001 through F005, check applicable constituents.
Column 3 - Wastewater/Non-wastewater: Check off "WW" for wastewater and "Non-WW" for non-wastewaters.
Column 4 - LDR Handling Code: Circle the appropriate handling code, as follows:
- The waste is a characteristic hazardous waste D001, D002, D003, D004-D011, or D018-43 which is intended for treatment/disposal in a CWA system, CWA-equivalent system, or Class I SDWA system. Underlying Hazardous Constituents (UHC's) are NOT required to be identified.
 - The waste is a characteristic hazardous waste D001 High TOC Ignitable Liquids Subcategory (i.e., greater than or equal to 10% TOC). Pursuant to 40 CFR 268.40, the waste must be treated using organic recovery (RORGs) or combustion (CMBST) technology. UHC's are NOT required to be identified.
 - The waste is a characteristic hazardous waste D001 (other than High TOC Ignitable Liquids), D002, D003 Explosive, Water Reactive or Other Reactive subcategory, D004-D011, D012-17 non-wastewater, or D018-43 which is intended for treatment/disposal in a non-CWA system, non-CWA-equivalent system, or non-Class I SDWA system located in the United States. All UHC's which are reasonably expected to be present must be identified, except for D001 waste that is intended to be treated using organic recovery (RORGs) or combustion (CMBST) technologies. Identify UHC's by completing Sections I and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
 - The waste is a characteristic (i.e., D-code) or listed (i.e., F-, K-, U-, or P-code) hazardous waste which is intended for export and treatment/disposal at a facility located outside the United States. LDR treatment standards do not apply to hazardous waste treated/disposed in a foreign country, and per USEPA guidance, the identification of UHC's (if applicable) is not required for hazardous waste that is intended to be exported. Note however that if the exported waste is subsequently returned for treatment/disposal in the United States, all applicable LDR regulations would apply and a revised LDR notification would be required.
 - The waste meets the definition of hazardous debris pursuant to 40 CFR 268.2(h) and is intended for treatment/disposal in compliance with the alternate debris treatment technologies of 40 CFR 268.45. In accordance with the requirements of 40 CFR 268.7(a)(1)(iv)(A), (1) "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45"; and (2) the contaminants subject to treatment (CSTT's) must be identified as part of this notification. Identify CSTT's by completing Sections III and IV of CHI Form LDR-1 Addendum and attach completed Addendum to this form.
 - The waste is a characteristic waste D003 Reactive Sulfide, Reactive Cyanide, or Unexploded Ordnance subcategory, a characteristic waste D012-17 wastewater, or a listed (i.e., F-, K-, U-, or P-code) hazardous waste. UHC's are NOT required to be identified.
 - The waste is a lab pack that is intended for incineration using the alternative lab pack treatment standard under 40 CFR 268.42(c). UHC's are NOT required to be identified; however, the generator must complete and attach the lab pack certification statement on CHI Form LDR-LP. Note that in accordance with 40 CFR Part 268 Appendix IV, lab packs which contain waste codes D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, and U151 are not eligible for alternative lab pack treatment standard.

*** NOTE: IF THE WASTE IS A SOIL CONTAMINATED WITH A LISTED OR CHARACTERISTIC WASTE AND THE GENERATOR WANTS TO USE THE ALTERNATE TREATMENT STANDARD FOR SOILS, CONTACT CORPORATE COMPLIANCE FOR THE APPROPRIATE LDR NOTIFICATION FORM.

SECTION I. CHARACTERISTIC WASTES D001 THROUGH D043

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	<input type="checkbox"/> D001 Ignitables, except High TOC subcategory	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D001 High TOC Ignitable Liquids Subcategory (Greater than or equal to 10% TOC)	<input type="checkbox"/> Non-WW only	1A 3 6
11A	<input checked="" type="checkbox"/> D002 Corrosives	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D003		
	<input type="checkbox"/> Reactive Sulfide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Reactive Cyanide, per 261.23(a)(5)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> Explosive, per 261.23(a)(6), (7) & (8)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Water Reactive, per 261.23(a)(2), (3) & (4)	<input type="checkbox"/> Non-WW only	1 2 3 4 6
	<input type="checkbox"/> Other Reactive, per 261.23(a)(1)	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Unexploded Ordnance, Emergency Response	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 3 4 5 6
	<input type="checkbox"/> D004 Arsenic	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D005 Barium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> D006		
	<input type="checkbox"/> Cadmium	<input type="checkbox"/> WW <input type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Cadmium Containing Batteries	<input type="checkbox"/> Non-WW only	2 3 6
11A	<input checked="" type="checkbox"/> D007 Chromium	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
	<input checked="" type="checkbox"/> D008		
	<input checked="" type="checkbox"/> Lead	<input type="checkbox"/> WW <input checked="" type="checkbox"/> Non-WW	1 2 3 4 6
	<input type="checkbox"/> Lead Acid Batteries	<input type="checkbox"/> Non-WW only	2 3 6

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SECTION I. CHARACTERISTIC WASTES D001-43 (CONTINUED)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / NAME	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	[] D009		
	[] Low Mercury, less than 260 mg/kg Mercury	[] WW [] Non-WW	1 2 3 4
	[] High Mercury Organic Subcategory	[] Non-WW only	2 3 4
	[] High Mercury Inorganic Subcategory	[] Non-WW only	2 3 4
	[] D010 Selenium	[] WW [] Non-WW	1 2 3 4 6
	[] D011 Silver	[] WW [] Non-WW	1 2 3 4 6
	[] D012 Endrin	[] WW [] Non-WW	2 3 4 5 6
	[] D013 Lindane	[] WW [] Non-WW	2 3 4 5 6
	[] D014 Methoxychlor	[] WW [] Non-WW	2 3 4 5 6
	[] D015 Toxaphene	[] WW [] Non-WW	2 3 4 5 6
	[] D016 2,4-D	[] WW [] Non-WW	2 3 4 5 6
	[] D017 2,4,5-TP (Silvex)	[] WW [] Non-WW	2 3 4 5 6
	[] D018 Benzene	[] WW [] Non-WW	1 2 3 4 6
	[] D019 Carbon tetrachloride	[] WW [] Non-WW	1 2 3 4 6
	[] D020 Chlordane	[] WW [] Non-WW	1 2 3 4 6
	[] D021 Chlorobenzene	[] WW [] Non-WW	1 2 3 4 6
	[] D022 Chloroform	[] WW [] Non-WW	1 2 3 4 6
	[] D023 o-Cresol	[] WW [] Non-WW	1 2 3 4 6
	[] D024 m-Cresol	[] WW [] Non-WW	1 2 3 4 6
	[] D025 p-Cresol	[] WW [] Non-WW	1 2 3 4 6
	[] D026 Cresol	[] WW [] Non-WW	1 2 3 4 6
	[] D027 1,4-Dichlorobenzene	[] WW [] Non-WW	1 2 3 4 6
	[] D028 1,2-Dichloroethane	[] WW [] Non-WW	1 2 3 4 6
	[] D029 1,1-Dichloroethylene	[] WW [] Non-WW	1 2 3 4 6
	[] D030 2,4-Dinitrotoluene	[] WW [] Non-WW	1 2 3 4 6
	[] D031 Heptachlor (and its epoxide)	[] WW [] Non-WW	1 2 3 4 6
	[] D032 Hexachlorobenzene	[] WW [] Non-WW	1 2 3 4 6
	[] D033 Hexachlorobutadiene	[] WW [] Non-WW	1 2 3 4 6
	[] D034 Hexachloroethane	[] WW [] Non-WW	1 2 3 4 6
	[] D035 Methyl ethyl ketone	[] WW [] Non-WW	1 2 3 4 6
	[] D036 Nitrobenzene	[] WW [] Non-WW	1 2 3 4 6
	[] D037 Pentachlorophenol	[] WW [] Non-WW	1 2 3 4 6
	[] D038 Pyridine	[] WW [] Non-WW	1 2 3 4 6
	[] D039 Tetrachloroethylene	[] WW [] Non-WW	1 2 3 4 6
	[] D040 Trichloroethylene	[] WW [] Non-WW	1 2 3 4 6
	[] D041 2,4,5-Trichlorophenol	[] WW [] Non-WW	1 2 3 4 6
	[] D042 2,4,6-Trichlorophenol	[] WW [] Non-WW	1 2 3 4 6
	[] D043 Vinyl Chloride	[] WW [] Non-WW	1 2 3 4 6

SECTION II. SPENT SOLVENT WASTES F001 THROUGH F005

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / CONSTITUENTS	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	[] F001 [] F002 [] F003 [] F004 [] F005 [] WW [] Non-WW		3 4 5 6
	[] 1. ALL F001-F005		
	[] 2. Acetone		
	[] 3. Benzene		
	[] 4. n-Butyl alcohol		
	[] 5. Carbon disulfide		
	[] 6. Carbon tetrachloride		
	[] 7. Chlorobenzene		
	[] 8. o-Cresol		
	[] 9. m-Cresol (difficult to distinguish from p-cresol)		
	[] 10. p-Cresol (difficult to distinguish from m-cresol)		
	[] 11. Cresol - mixed isomers (sum of o-, m- and p-cresol)		
	[] 12. Cyclohexanone		
	[] 13. o-Dichlorobenzene		
	[] 14. 2-Ethoxyethanol (F005 only)		
	[] 15. Ethyl acetate		
	[] 16. Ethyl benzene		
	[] 17. Ethyl ether		
	[] 18. Isobutyl alcohol		
	[] 19. Methanol		
	[] 20. Methylene chloride		
	[] 21. Methyl ethyl ketone		
	[] 22. Methyl isobutyl ketone		
	[] 23. Nitrobenzene		
	[] 24. 2-Nitropropane (F005 only)		
	[] 25. Pyridine		
	[] 26. Tetrachloroethylene		
	[] 27. Toluene		
	[] 28. 1,1,1-Trichloroethane		
	[] 29. 1,1,2-Trichloroethane		
	[] 30. Trichloroethylene		
	[] 31. 1,1,2-Trichloro-1,2,2-trifluoroethane		
	[] 32. Trichloromonofluoromethane		
	[] 33. Xylene - mixed isomer (sum of o-, m-, and p-xylene)		

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SECTION III. CALIFORNIA LIST WASTES

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON-WASTEWATER	COLUMN 4: HANDLING CODE
	Hazardous waste containing one or more of the following [] WW [] Non-WW		1 2 3 4 5 6
	California List constituents:		
	[] ALL CALIFORNIA LIST CONSTITUENTS		
	[] Liquids with nickel greater than or equal to 134 mg/l		
	[] Liquids with thallium greater than or equal to 130 mg/l		
	[] Liquids with PCB's > or = 50 ppm		
	[] Waste containing HOC's > or = 1,000 mg/kg		

SECTION IV. OTHER LISTED WASTES (F006-12, F019-F028, F037-38, F039, K-, U-, AND P-CODES)

COLUMN 1: LINE ITEM SEE MANIFEST	COLUMN 2: WASTE CODE / SUBCATEGORY	COLUMN 3: WASTEWATER/ NON WASTEWATER	COLUMN 4: HANDLING CODE
<u>11A</u>	<u>K062</u>	[] WW <input checked="" type="checkbox"/> Non-WW	3 4 <u>5</u> 6
		[] WW [] Non-WW	3 4 5 6
		[] WW [] Non-WW	3 4 5 6
		[] WW [] Non-WW	3 4 5 6
		[] WW [] Non-WW	3 4 5 6

- [] CHECK HERE IF ADDITIONAL LISTED WASTE CODES ARE PRESENT. COMPLETE AND ATTACH LDR-1 CONTINUATION SHEET.
[] CHECK HERE IF WASTE CODE F039 (MULTISOURCE LEACHATE) IS PRESENT. IDENTIFY F039 CONSTITUENTS BY COMPLETING SECTIONS II AND IV OF CHI FORM LDR 1 ADDENDUM AND ATTACH COMPLETED ADDENDUM TO THIS FORM.

SECTION V. CONTACT NAME AND DATE

Print Name:

FRED G. KRIKAU J. G. Krikau

Date:

8/11/99

KEY TERMS/DEFINITIONS

CLASS I SDWA SYSTEM means a Class I deep well facility regulated under the Safe Drinking Water Act (SDWA).

CWA SYSTEM means a centralized wastewater treatment facility discharging under a Clean Water Act (CWA) permit. For example, a CWA facility would treat organic or inorganic aqueous wastes and discharge the treated effluent to the local sewer system. Examples of CWA treatment systems owned and operated by Clean Harbors include the wastewater treatment operations at Baltimore (including the CES system), Bristol, Chicago, Cincinnati and Cleveland.

CWA-EQUIVALENT SYSTEM means a "zero discharge system" that engages in "CWA-equivalent" treatment before land disposal. Zero-discharge facilities treat hazardous wastes using "CWA-equivalent" treatment methods, but do not discharge the treatment effluent to a sewer or water body (e.g., spray irrigation land farm). "CWA-equivalent" treatment methods means biological treatment for organics, alkaline chlorination, or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

HIGH TOC IGNITABLE LIQUIDS SUBCATEGORY means an ignitable liquid hazardous waste (waste code D001) which contains greater than or equal to 10% total organic carbon (TOC). Pursuant to 40 CFR 268.40, such wastes must be treated using organic recovery (RORGs) or combustion (CMBST) technology. Examples of RORGs technologies include the CES unit at Clean Harbors of Baltimore. Examples of CMBST technologies include hazardous waste fuel blending and subsequent reuse at a cement kiln, or destruction at a RCRA incinerator.

WASTEWATERS are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). [See 40 CFR 268.2(f)]